

PRACTICAL HINTS ON ROSE CULTURE

IN INDIA

BY

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FOREWORD

It is necessary, as the French philosopher said, to cultivate one's garden; one can forget the problems and anxieties of life in the problems and anxieties of pruning and grafting and outwitting white ants; but for many years I fought shy of roses. Beautiful as the flowers themselves are, I feared that the cost and trouble of rearing them was not worth my while, because I thought that a rose garden as a whole is rarely a beautiful thing. I am now a complete convert, and believe that there are no flowers, except perhaps cannas, which make a more generous response to your care and attention.

There is much to learn about roses, and if there is any of it that is not contained in this little book I am sure it is in Captain Sherrard Smith's head. He has a gift of imparting knowledge in a simple way; and when he shows you the reason why, it seems so obviously right that you are surprised you did not think of it yourself. When, for instance, you have seen the results of pruning a rose bush in the middle, where the growth could never thrive through want of light and air, or of pruning a stem to an eye that points outwards, you are never likely to forget the proper treatment. His advice, again, to stick to one variety of rose for each bed I strongly endorse. I have indeed gone further and made a complete little garden of red roses—five varieties of similar colours—and this is a constant joy from December to March.

"Practical Hints on Rose Culture in India" will I am sure be of great use to growers, and I hope it will convert many who, like myself, felt diffident of the powers of the rose to beautify a garden. My own garden owes much to the supervision of Captain Sherrard Smith, and my enthusiasm was inspired by what I learnt from him.

ALLAHABAD.

C. H. B. KENDALL.

March 25th, 1932.

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PRACTICAL HINTS

ON

ROSE CULTURE IN INDIA

PART I

Introduction.

THERE is so much to write about the Rose that I have found it difficult to decide exactly where to begin. Most writers begin their subject in almost poetical language, singing the praises of the Rose from the time of Adam and Eve.

You, however, are impatient for the practical advice the title portends, so I will not keep you waiting.

Numerous writers have written on the subject before and somewhere or other in their books will be found words to this effect "The best soil is" or "The best situation is" and so on. But there are few if any who are fortunate enough to select sites for their garden, they have simply to content themselves with the situation and soil around their homes. I have yet to meet the place where habitation is possible but Rose Culture impossible. No soil is perfect, but by proper treatment, the worst soil can be made acceptable to plant life.

These instructions are confined to the Plains of India, though in principal, they will be useful alike to Hills or Plains, nay, anywhere where the rose is grown, the only modification necessary

being the season during which the different operations are conducted.

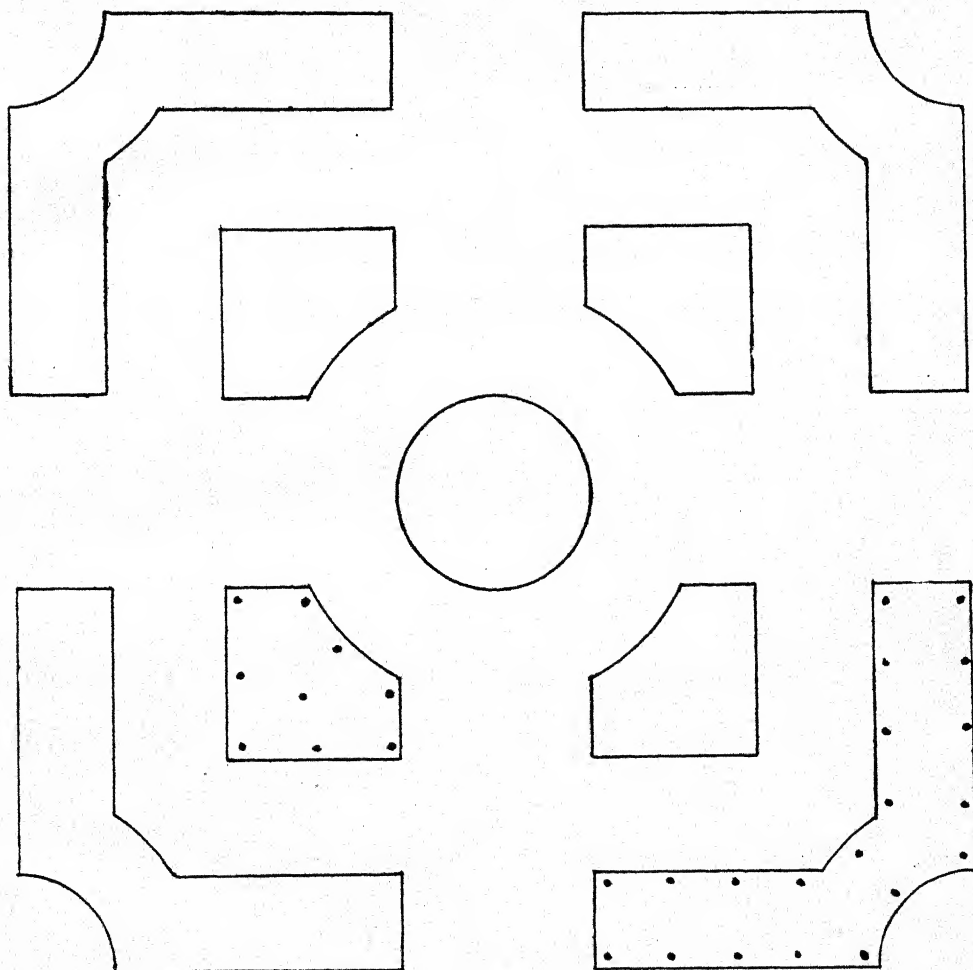
Writers on any subject are of two classes—those who have little material but a gift of imparting that knowledge in such a way as to compel close attention ; others who have better material at their disposal but seem fated to bore their readers. I do not pretend to boast of the gift of the former nor the superior experience of the latter, but if I do not bore you, I will have accomplished much.

Planning a Rose Garden.

NEATNESS and order in a garden denote the careful cultivator who will keep his plants clean and give them every opportunity to do well. But the benefits obtained from the exercise of taste in arrangement are beyond anything that mere tidiness can secure.

The most natural and effective setting for rose beds is a lawn. Grass walks between give the beds a beautiful finish and set-off the colours of the blooms to advantage. On the other hand paths of brick, crazy paving; or flagstones, are to be recommended; they do not detract from the charm of the flowers and are picturesque. It is not necessary for these paths to be made throughout the Rose Garden, they may be confined to the centre portion only, the remainder being grass. Do not skimp the width of the grass paths between the beds. Six feet wide should be the minimum, while nine to twelve feet for the main paths leading to the centre, and a spacious centre of grass, will repay the trouble they may give in keeping them rolled and mown.

Rarely, if ever, does one meet two sites capable of the same treatment. A design for a Rose Garden, suitable to a certain position, may be found entirely out of place in another. It

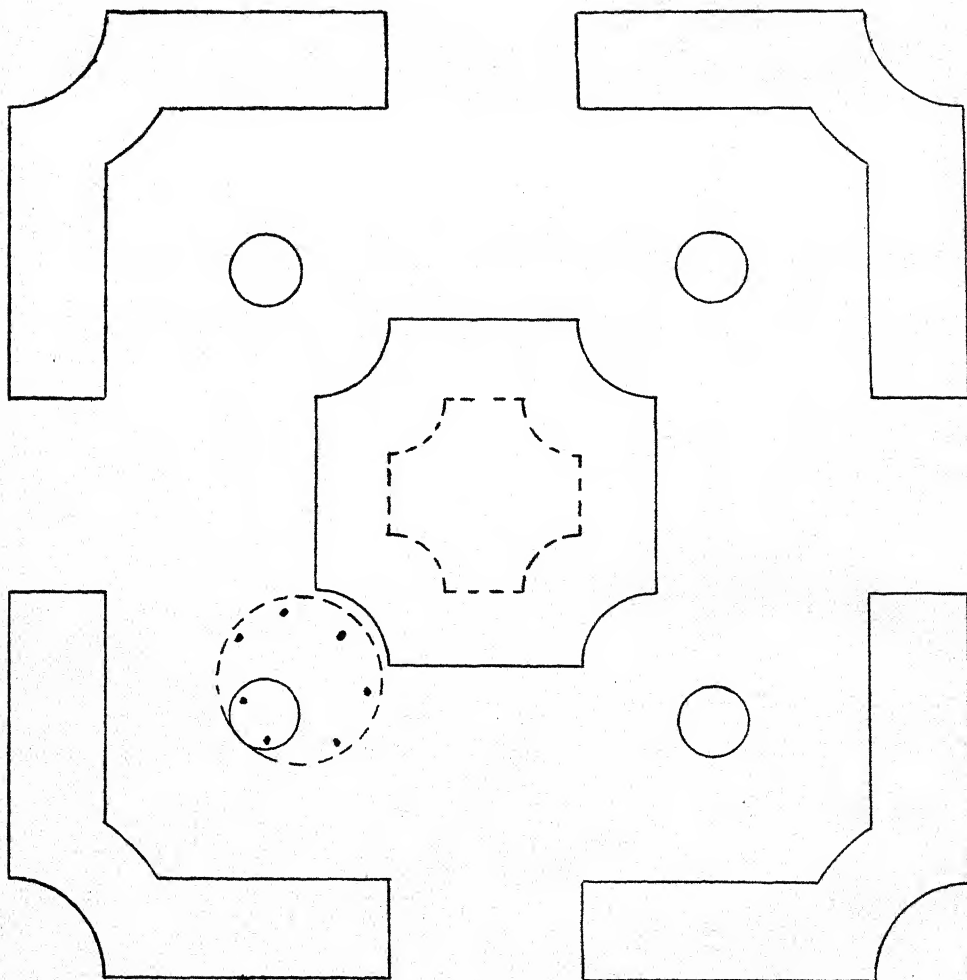


Scale 1 inch=10 feet.

Fig. 1.

This is a simple yet effective design. The centre circle is paved with flag-stones to hold either a low Bird-bath or a Sun-dial. An imitation well, depicted elsewhere, will also look effective. The dots represent the plants in the beds. There is room here for 116 plants.

To face page 3.



Scale 1 inch=10 feet.

Fig. 2.

The outer beds are the same as Fig. 1. The centre, a pavement of alternative shape, may be either large with a Standard Rose in each corner, represented by small circles, or small, with a large circular bed for Bush Roses in each corner. This alternative is shown by the dotted lines. The former treatment will hold 84 plants, where as the alternative will accommodate 108 plants.

is not my endeavour to plan a Rose Garden that will suit each individual case. Were this possible in my opinion, I would yet have failed hopelessly, as individual tastes differ vastly. The drawing-room is man's own creation for a specific purpose. Similarly the Rose Garden is a room in the open. It is for your own individual pleasure and should conform to your own ideas, not to those of someone else. A few designs suitable for rose beds will be found in the pages of this book, and it is left to the discretion of the reader to choose the particular design best suited to his purpose.

Generally speaking a rectangular design will best suit a plot of similar shape, a square design, a square plot and so on, though at the same time it is possible for a circular plot to accommodate a square design and vice versa.

The designs herein produced are specially suitable for collections, each variety in a separate bed. Nor would I, as a rule, recommend a mixed plantation, because in such plantations the roses are often at a disadvantage, the more vigorous plants depriving the weaker ones of light, nourishment and air, while due to a different mode of attention being necessary for each individual variety, difficulties arise. Besides this the unbalanced effect of growth and production of flowers is not harmonious. Moreover blooms which would attract if admired separately are outclassed by a more contrasting colour or larger bloom, and are consequently overlooked. The colour effect is also lost. A mass of blooms of one kind is more attractive than a mixture of several colours, or even a mixture of shades. But where Standards and Half-Standards are employed in the centre of a bed of bush roses, or where a dwarf Polyantha rose is employed as an edging, a contrasting but harmonising shade of bloom will be found effective. Large beds which will accommodate more than a score of bushes would look monotonous with roses

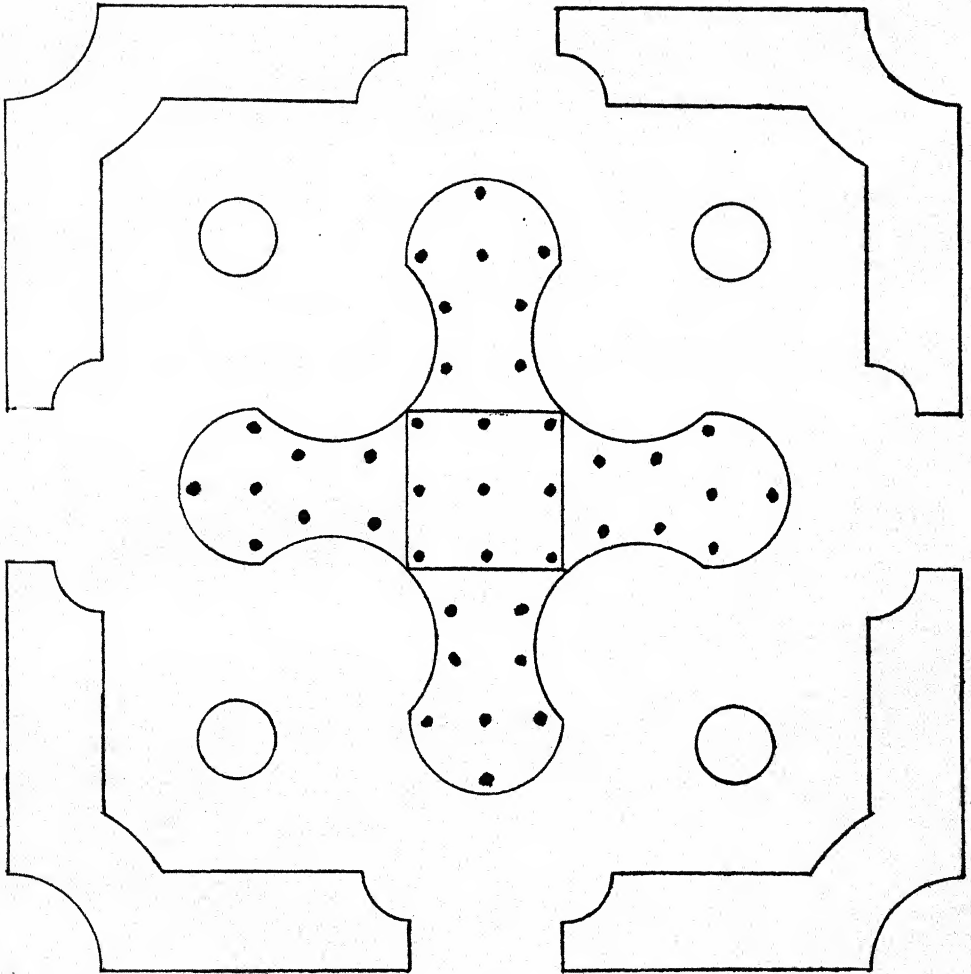
all of the same kind. In such beds two or more varieties may be grouped together. It is here that Standard roses may be employed conveniently to separate the varieties. One should, however, avoid a bed of all Standards.

It is not advisable to have beds of elaborate design such as star-shaped, diamond-shaped, scroll, and so on. It is difficult to plant them satisfactorily and the *mali* will not be able to trim the edges accurately.

To be able to identify all the roses readily is an obvious necessity. Labels look unsightly when stuck on the bushes. The most satisfactory method is to make a rough plan marking the names of the roses as they are planted.

A Rose Garden may be made much more delightful by having one point of interest besides the roses, for nothing is more usual than to find that, except in the few weeks of its fullest bloom, the Rose Garden is rather a dull place. There are several ways in which such an object may be secured. A small pond in the centre containing gold fish with a raised rockery in the middle has a very pleasing effect. In designing this tank an unbroken circle must be avoided as this would be a trifle monotonous. The tank should be varied, on the four sides opposite the paths leading to the tank, by a square projection wide enough to hold small tubs or large pots of flowers in pairs, as shown in fig. 7.

Another charming effect may be obtained by an imitation well with supports and cross bar, from which a bucket is suspended, with climbing roses growing over the supports. A small sundial may be accommodated in the centre with good effect. Whatever the structure, it should not be so large a construction as to dominate the rest of the garden. Ample grass around the structure is very necessary.

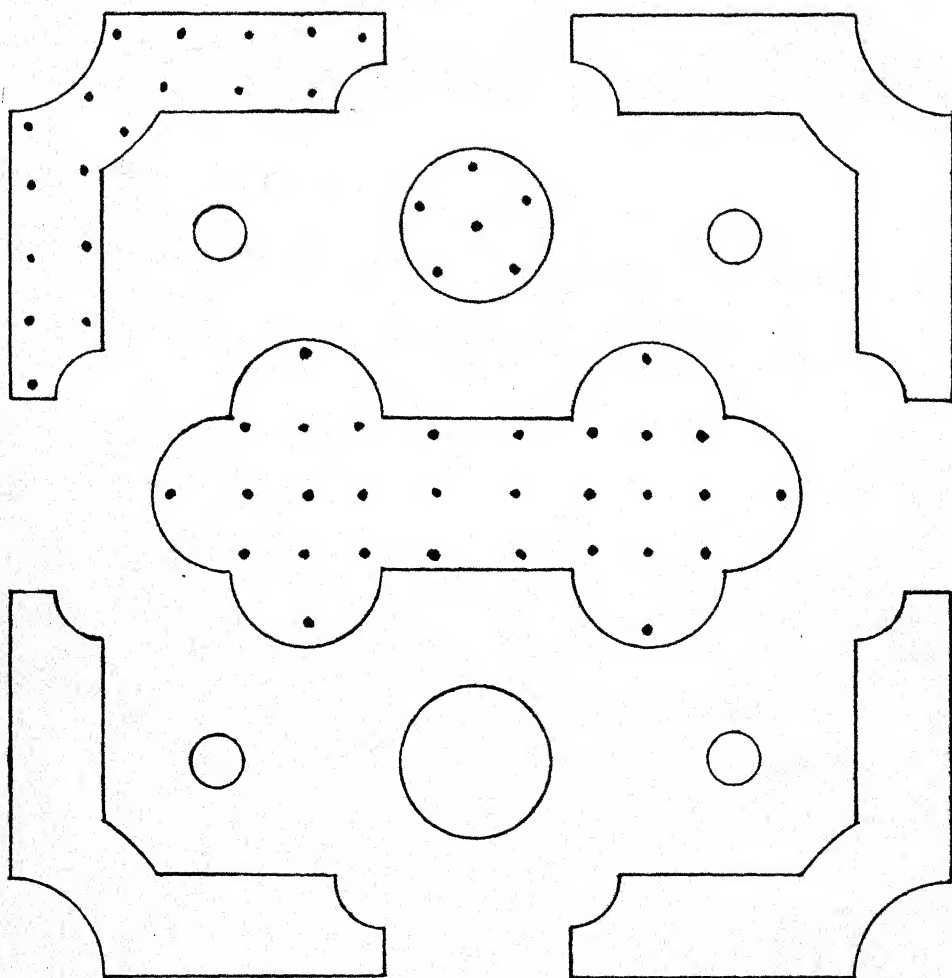


Scale 1 inch=10 feet.

Fig 3.

This design contains no central structure. An effective, and yet easily constructed bed, is shown as the centre-piece, which will accommodate 5 different varieties of Bush Roses. The middle of this bed (as shown by a square) instead of being planted with Bush Roses, will look well with a tall pyramid covered with Climbing Roses. The small circles will contain a Weeping Standard in each. This design will hold 117 plants.

To face page 5.



Scale 1 inch=10 feet.

Fig. 4.

This is the same as Fig. 3 with an alternative centre-piece to hold 3 different varieties of Bush Roses, 6 plants in the middle with 12 plants each on both sides. The two large circles will hold 5 plants each while the 4 smaller ones will each contain a Bush Standard. 118 plants will be required for this design.

The colour scheme must not be overlooked. The amateur usually finds this outside the range of practicability. Nevertheless, it is possible to avoid glaring errors of taste. It is with the red roses that most care is needed as it is in these that the clashing of colours mostly occurs. Scarlet tints as in Captain Hayward are perhaps the most difficult for which to find suitable companions. They should never be placed close to crimson or deep rose pink shades. Salmon pink and rose pink varieties should also be kept separate. Even in the lighter shades each kind needs to harmonise with its neighbour if it is to appear at its best.

Stick to one variety for each bed and you will not go far wrong. Never scatter your roses in straggling lines mixed up with other plants throughout the length and breadth of your garden along carriage drives and paths. The rose is not suited for this purpose and deserves better treatment than is usually meted out to it in such positions. Confine your Rose Garden to a section of the garden and keep it there.

Above all avoid mixing up annuals or other flowers with your roses; nothing is more distasteful, to say nothing of the discomfort with which the roses have to contend simply because the annuals are there. They deprive the roses of moisture and they draw out a considerable amount of the nourishment from the soil in a very short space of time. The roses are (at a time when they should be at rest) forced to partake of a considerable amount of water just because the annuals require it. I cannot too forcibly condemn this practice, sad to say so common, of mixing up roses and annuals in the same bed. It is not gardening and certainly not artistic.

As a general rule the beds should not be wider than five feet and anything less than this will not accommodate a double row of

plants. Beds of a large size look ungainly and are difficult to keep clean and tidy. A bed five feet wide can be weeded from both sides without the necessity of getting into it.

A situation which protects the plants from the fierce Westerly sun and Westerly wind is ideal, but the shelter should on no account overhang the beds, nor should it be such that it will cast a shadow on the plants when the sun is in a Southerly direction during the Winter months.

Roses love to revel in the morning sun and as each dew-drop is snatched away by the morning rays the happier do the roses become. No rose bush will flower well without the morning sun, and if deprived of this there will be considerable trouble with fungus diseases.

After eight or ten years on the same site the rose begins to get discontented and refuses to respond to any kindly treatment. The soil becomes unsuitable and a change of situation is desirable. This is a common cause of failure. Unknown to the present owner, the site may have accommodated rose beds for several years and the soil become "tired" or "sick." Thorough digging up of the site and exposure to sun and air for two or three months, with a liberal application of Lime turned in with the soil, will soon put the matter right, but roses must not be grown on the same ground for at least another two years.

Choice of Suitable Varieties.

THIS is the first problem which confronts the amateur when he attempts to grow roses. As you will see later, this vast family is divided into a number of "groups" or "classes" each according to its mode of growth and other definite features. The selection of

suitable varieties will depend on the class of work for which the roses are required.

Undoubtedly the H. Ts are the popular favourites and deserve all our homage. There are also true gems among the Teas and Polyantha roses. These latter, lovely little roses, should be freely employed as undergrowth below Standards, edging for beds, and for pot work. The H. Ps also bear magnificent blooms but few in number, and for this reason they should never predominate in

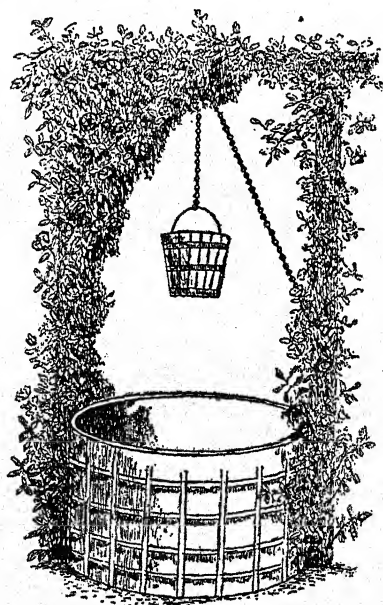


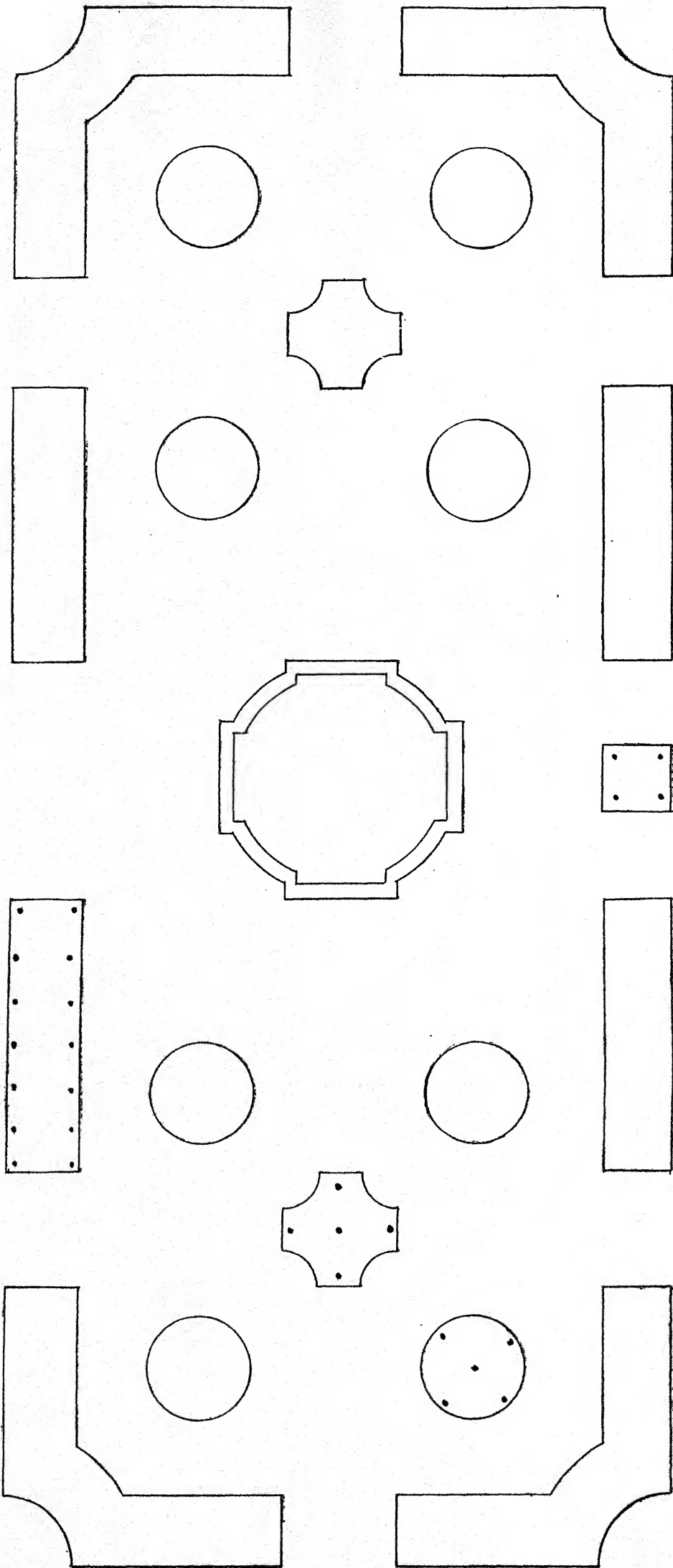
Fig. 6—A Charming suggestion for the centre of any Rosery.

a decorative scheme where a mass effect is desired. We need to eliminate these from the Rose Garden as much as possible except a few kinds such as Mrs. Sharman Crawford and Capt. Hayward; these are nearly as free flowering as the Hybrid Teas. It may be

asked what are we to do with the H. Ps for they are of such glorious rich colours? Well, I would suggest that they be planted in the approaches to the Rose Garden or in individual beds at the corners. I have seen a Rose Garden when in bloom completely spoilt, from a spectacular point of view, by the inclusion of shy-blooming H.Ps in the midst of Ts and H. Ps.

As a rule we turn to a catalogue for the description of the different varieties, but invariably find it is more of a hindrance than an aid in the choice of varieties. The rose is one of the most difficult of flowers for distinguishing the shades. A hundred flowers may be taken and so placed to form a graduated scale of colours. The operation may be repeated a dozen times and each time there would be good reason for altering the scale, and arranging the roses differently. Is it any wonder then that a catalogue can convey nothing but the most meagre description? Moreover a rose may change its colour from morning to evening. The season, climate, position, manner of cultivation, manure, disease and a number of other factors all tend to modify the colour, and thus we often hear the colour of the rose spoken of as "unstable." Take for instance Marie Van Houtte. Have you ever noticed the remarkable difference between two flowers on the same plant? While one is a plain sulphur yellow, another is a yellowish white, a third is edged with pink. These changes are due to the age of the flower, which varies from day to day but which does not, however, detract from its beauty.

Unfortunately descriptions are sometimes rather fantastic, but everyone will admit how extremely difficult it is to describe any rose. Try and give an exact description of Maman Cochet, Madam Jean Dupuy and several others of the like. You will never manage it because the beauties of the rose are difficult to translate.

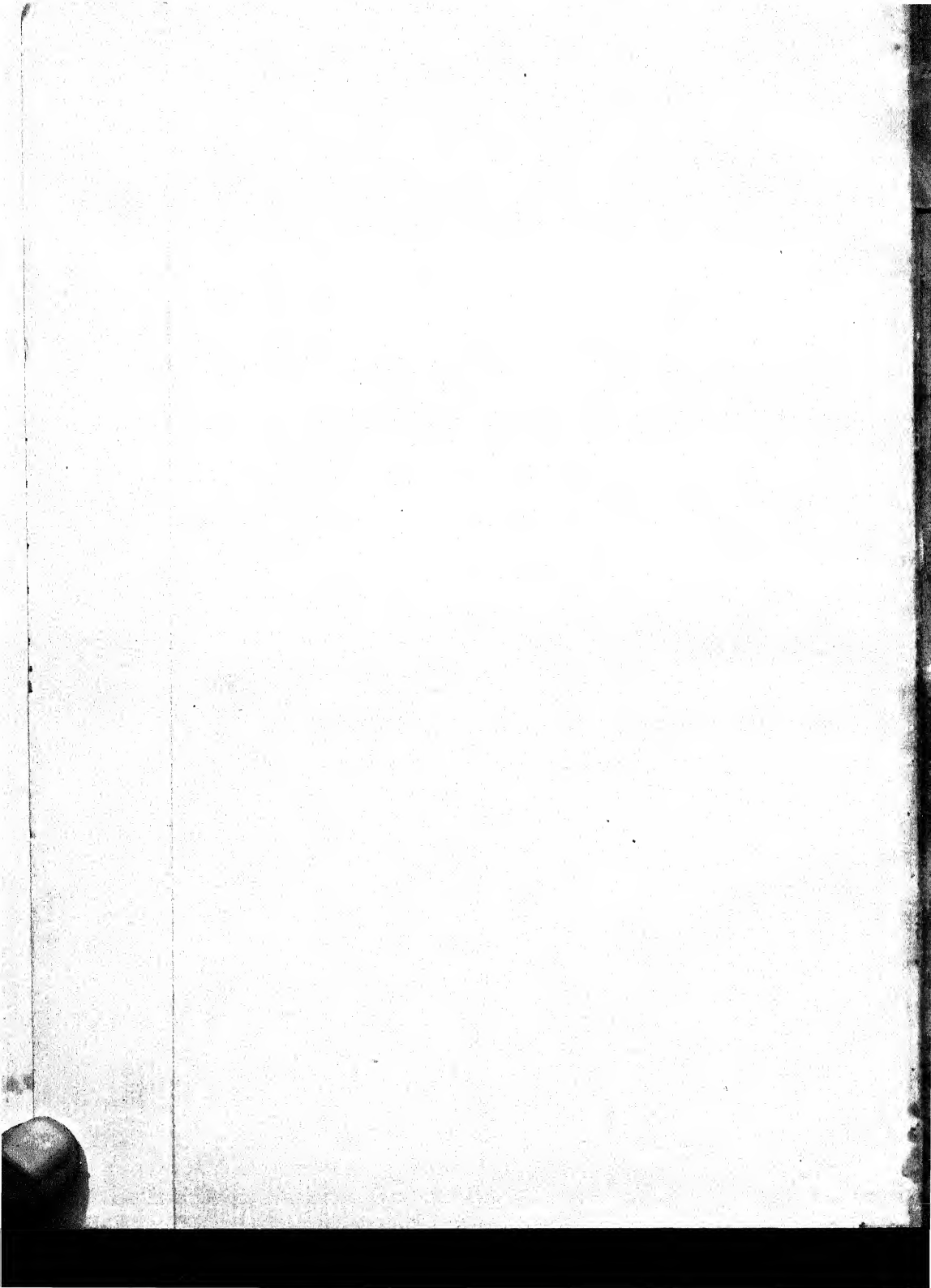


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Scale 1 inch = 10 feet.

Fig. 7.

Like Fig. 5 this is a modification of Fig. 2 with a lily pond in the centre. There is room here for 190 plants.



Entire pages must be devoted to the description of each variety if one would give an exact picture.

A catalogue will definitely show the class, which is the first consideration, and the shades of colour and other points may then easily be selected. A descriptive list of a few choice varieties grouped according to their predominating colour may help the novice to make a satisfactory selection. This will be found at the end of the book. Against each name, the class, and the purpose or purposes for which it is most suitable are shown.

Climbing Roses.

DIFFICULTY is often experienced by the amateur gardener in fixing positions for his climbing roses. A pergola is an ideal

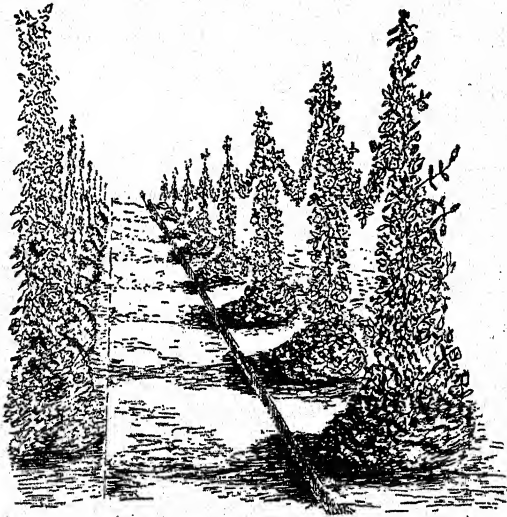


Fig. 8—Pyramids of Climbing Roses linked together with Festoons.

structure to accommodate these, but the expense incurred in its construction is a drawback. Wooden structures soon fall to

pieces and are more often than not never repaired, a pergola made of masonry pillars connected by a wooden trellis work is more lasting, but is not suited to a small garden. A light, strong and yet effective pergola is easily erected with the help of a few girders and fencing wire.

Care is needed in placing pergolas, screens and other lofty structures, which frequently make a small garden look still more diminutive. A pergola should always lead from one part of the garden to another. It may also form the entrance to the Rose Garden from the house or some other portion of the garden, and this is often the most convenient place for it where the latter is of small extent. It should never be placed across a small garden or down the centre of a narrow one. It should always be straight, never winding about, and diversions should be at right angles, and should be so placed as to lead the visitor from one feature of the garden to another with a sense of curiosity, luring the visitor onwards.

A few good climbing roses for walls, pergolas, etc., are the following :

Caroline Testout, Lady Ashtown, Gloire de Dijon, Madame Alfred Carrière, Rêve d'Or, Yellow Banksian, Aimee Vibert, Félicité-et-Perpetue and Maréchal Niel.

The Pillar Rose.

ANOTHER charming treatment for a climbing rose is the Pillar form. Pillars are always effective, are easily constructed and do not take up too much room. Where the garden is too small for a pergola, I would strongly recommend this arrangement for

climbing roses. A row of climbing roses grown on pyramid-shaped pillars 8 to 10 feet high at the back of the Rose Garden or placed around it so as to enclose it within its own boundary, will always be admired.

Not only climbing roses but strong growing plants like Grüss an Teplitz, Hugh Dickson and J. B. Clark may be treated in this way, either on tripods made with three pieces of wood or trained as a pyramid to a height of 5 feet.

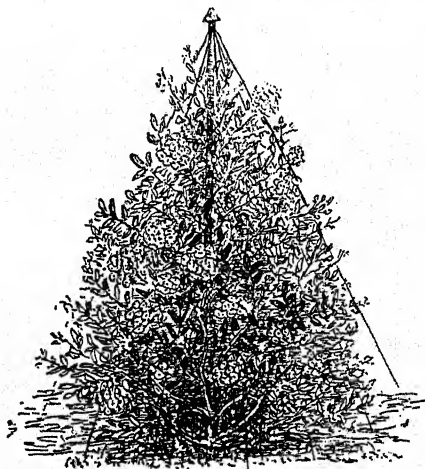


Fig. 10—A Climbing Rose trained as a Pyramid.

Pillar roses should abound on every hand. There is no more profitable way of growing certain free-growing sorts, and they require little more room than a small bed of bush roses. I would strongly advocate the planting of isolated specimens of vigorous habit on tripods in any available space. These on tripods 5 feet high intercepted by climbers on pyramid-shaped pillars 8 to

10 feet high, will make a most charming display planted along the outer boundaries of a lawn in an irregular line.

For the living pyramid a post is used for the centre support, from the top of which strands of fencing wire are pegged into the ground a few feet apart to form a complete circle at the base. Wire-netting over this will make an effective structure. The ends of the fencing wire should be wound round a brick or a piece of iron and sunk into the ground. A well-seasoned *sal* log will give good results and will last as long as the rose if properly treated before being used. Two coatings of tar are necessary, the second after the first has thoroughly dried. The top of the pole should be capped with a conical-shaped galvanised tin cap so as to prevent water from soaking into the pole.

Pillar Roses.—American Pillar, Paul's Scarlet Climber, Paul's Lemon Pillar, Mermaid, Madame Alfred Carrière, Climbing Madame Melanie Soupert, Climbing Ophelia, Climbing Madame Able Chatenay, Dorothy Perkins, Crimson Rambler, Tea Rambler, Emily Gray, Snowflake, Evangeline.

The Standard Rose.

WHERE is there a more noble picture of floral beauty than a free-headed, well-bloomed Standard rose? Why is it they are not more frequently seen? I believe it is owing to the demand of the public for unsuitable kinds in standard form. All roses are not suitable for this form of culture. A free blooming rose is the first consideration, but success is not dependent on this alone. I am not in favour of using puny, stumpy growths such as the Captain Christy class for standards. We want strong growing and free blooming kinds which will give us a fine "head"

combined with a display of flowers. Grüss an Teplitz, Caroline Testout, Lady Ashtown, Mme. Able Chatenay, etc., are all admirably suited for this work, but Florence Pemberton has excelled itself in this.

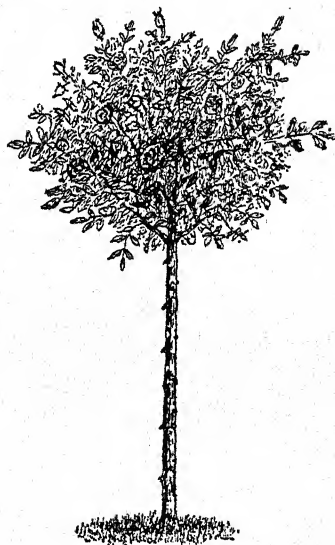


Fig. 11—A Standard Rose.

There is scarcely a position in which a Standard rose will look out of place. Used for overhead work in a rose bed, as an isolated specimen on a lawn, along both sides of a drive or path to form a continuous avenue, indeed anywhere this form of rose looks well. But there is just one point to remember, it requires a "setting" and the dwarf growing Polyantha rose affords this to the best advantage. The dwarf the more will the Standard show to advantage. Do not over-do it by planting too many; just one single line around each Standard, two feet away from it, and the picture is complete.

Lovely as it is, no one should think of growing Marquise de Sinety as a Standard whereas Frau Karl Druschki, Hugh Dickson in addition to those already mentioned make grand standards. Some others are Admiration, Betty Uprichard, C.K. Douglas, General McArthur, Mrs. H. Stevens, Lady Hillingdon, Rev. Page-Robers, Irish Fireflame.

Weeping Standards.

THE best free flowering varieties are required for this class of work. Roses which produce long, thin drooping rods are essential.

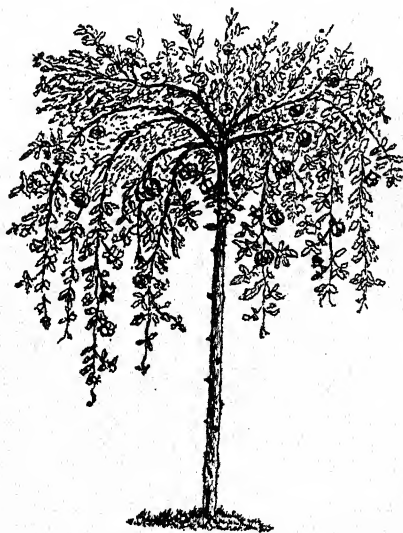


Fig. 12—A Weeping Standard Rose.

Dorothy Perkins makes a typical example. The heads should be developed on tall strong growing stems 6 to 8 feet high. Unlike

the bush standard it requires no setting with other roses. Planted as an isolated specimen here and there on a lawn it produces a most picturesque effect.

The following varieties are well suited for Weeping Standards :

Dorothy Perkins, Dorothy Dennison, Evangeline, Hiawatha, Lady Gay, Minnehaha, American Pillar, Excelsa or Crimson Dorothy, and Francois Juranville.

Standards both Weeping and Bush may be induced to form their "heads" on stems grown on their own roots, or budded on the *desi* rose at the required height. Rich feeding at the roots is essential for a strong upright standard. Cover the upright stems with cloth during the hot weather to protect them against the heat. Standards will require strong stakes to keep them in an upright position otherwise they are liable to be damaged by wind; the stake should be fixed in position at the time of planting. One-inch galvanised water-piping will make an excellent support, but this should be encased in a bamboo, which is split in half and fixed around the pipe to which it is secured with thin wire. This will prevent the stem of the standard being burned when the pipe gets hot. For fixing standards to stakes strips of strong tape should be used, on no account use wire. The tape should be given a double twist around the stem, and then tied tightly around the stake. Keep the tape rather loose around the stem to allow for expansion. There should be as little movement between the stake and stem as possible. The knots should be regularly examined and loosened if necessary. The ligatures should be placed every six or eight inches apart.

The pruning of Bush Standards must conform to the method indicated for the particular class of rose used, but more attention should be paid to the symmetry of the head. With Weeping

Standards also the method of pruning for the particular class will be observed but the 'effect' should be the first consideration. The rods should be pruned at various lengths and some of the wood should be taken away if it becomes too thick ; weak branches must not be permitted to remain.

Pegging Down Roses.

IN the same manner as we have roses for special purposes such as for Pillars, Walls, Beds, Standards, etc., Pegging Down Roses should also be planted as a special feature in the Rose Garden. True, we have a generous selection of roses suitable for beds without the necessity for pegging down, and one may justly ask why we want these at all, but if we were to exclude them, we would be doing without some of the best only because their exuberant growth bars them from being associated with ordinary bedding roses ; in beds unless pegged down they are apt to grow ungainly.

A method of planting these roses which the writer has used, is perhaps unique, and is as follows :

The beds are made in the usual way, any fantastic design can be fashioned (as no cutting of the edging is required) though I recommend nothing but bold clear designs for other bedding purposes. Iron pegs with looped tops are driven into the ground along the edge of the design and throughout the bed at convenient distances. These pegs are 18 inches long and stick out 6 inches above the ground. The plants are then planted at suitable distances. A single strand of wire about $\frac{1}{4}$ -inch gauge is threaded through the loops of the pegs, first along the edge of the bed and then criss-cross throughout the bed.

The young vigorous growths as they appear and grow long enough, are bent down almost horizontally and trained under and

over these wires alternately. If a stem shows flower-buds it should be allowed to grow erect. When pegged down in this manner the quantity of blooms is easily trebled. This system is also suitable for climbing roses, especially the Ramblers. Care should be taken to wrap a piece of gunny or some such material around the wire wherever the rose-stem comes in contact with it. When the flowering period is over the branches should be cut well back. As other strong shoots develop they in turn should be pegged down—no other pruning will be necessary. Good varieties for this purpose are :

William Allen Richardson, Frau Karl Druschki, Alister Stelle Gray, Hugh Dickson, Grüss an Teplitz, Florence Haswell Veitch, Lady Waterlow, Climbing Mrs. W. J. Grant, J. B. Clark, General Jacqueminot, Paul Neyron, George Dickson.

Preparing the Beds.

HAVING selected your design, you will now proceed to map it out on the prepared ground. Cut out the beds to a depth of nine inches and remove this soil entirely. Now dig out the soil to a further depth of one foot and place the soil thus taken out around the sides of the bed. Dig up the bottom of these beds yet another foot without removing the soil. The soil should be thoroughly pulverised, not left in clods. Place six inches of thoroughly decomposed cow manure on this and incorporate it with the soil by digging it in. Now fill in the beds with the earth on the sides and thoroughly saturate the beds with water. This will cause the soil to settle down to within three inches or so from the top. This space will subsequently be reduced to about an inch after planting and mulching the beds. The beds should be prepared at least a month before planting. Places for Standards, Climbers,

vigorous roses on tripods, and all isolated specimens should have pits dug out three feet wide and three feet deep and prepared as described for beds.

Planting.

IN the plains of Northern India, there are two seasons for planting Roses, *i.e.*, during the rains and during the early winter. Both seasons have their advantages and disadvantages.

Rose bushes planted in the rains will have grown sufficiently strong by the following winter to give a good display of flowers. But they do not travel well during this time of the year and

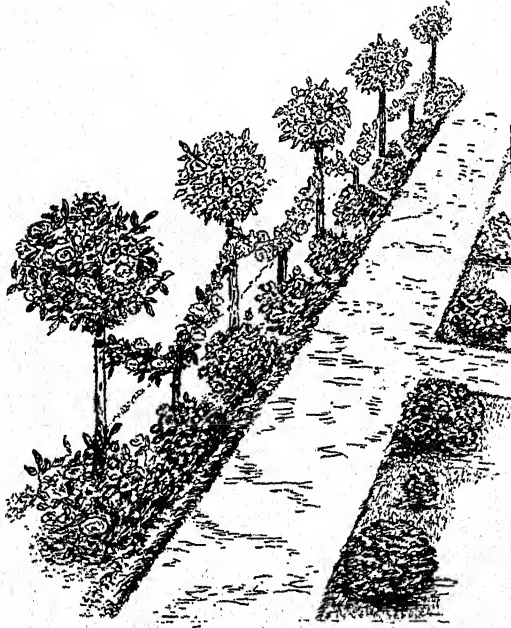


Fig. 13—Festoons of Climbing Roses and Standards with Dwarf Pompons as a setting. consequently there are numerous casualties. Greater care is necessary to guard against water-logging at the roots and attacks by

white-ants. A prolonged break in the rains soon after planting would be disastrous to a degree.

During the winter months the plants are more or less dormant, they are certainly not in such active growth as during the rains and are, therefore, better able to stand the check the plants are subjected to when moved from one situation to another. They do not, however, make sufficient growth during the shorter period to enable them to give a good display of flowers the same winter.

As a general rule it is safer to plant during the month of November than at any other time of the year. If the plants are to travel any distance, or there is likely to be any delay in transplanting once the roots have been disturbed, or there is a likelihood of any damage to the plants in transit, such as breaking of the ball of earth around their roots, or the plants are likely to suffer from the want of water during transit, then it is imperative to defer planting till November.

On the other hand, if the plants are to be obtained locally and can be transplanted without much disturbance to the roots, the earlier planting is preferable, and the few casualties that may occur are compensated for by the more vigorous growth of the plants and abundance of flowers during the following winter. Moreover, the spaces left blank by casualties can be filled in during the following winter. Pot-grown roses can be planted at any time as the factor of root disturbance can be ruled out.

As in doing most other things there is a right and a wrong way, this is also true of planting rose bushes. I will endeavour to describe some of the mistakes most frequently made in order that readers may avoid repeating them.

Very long roots should be shortened, and bruised and broken parts removed. The damaged portions, if permitted to remain, will

decay and spread to healthy tissue. Use a sharp knife and make a clean cut.

Do not allow the roots to come into contact with manure. This is why, when preparing the beds, you will have observed that the manure is buried at the bottom where the roots will eventually penetrate. They will then be in a position to cope with the manure. Newly planted bushes do not want the manure around their roots. The strong manure causes the dormant and young roots which are forming, to rot rather than encourage the formation of new ones. There is sufficient manure at the bottom of the beds for the requirements of the plant later on, and an occasional mulching or top-dressing with manure when the plants are established, will furnish all the nourishment necessary.

Planting too deep is a very common error. I have often seen plants destroyed due to this cause. If any portion of the stem comes in contact with the soil, in ninety per cent of cases the stem will decay and cause the death of the plant. Canker is almost sure to set in where the stem comes in contact with the wet earth. This will eat into the surface layer of stem tissue and will thus destroy the channel through which the plant receives its nourishment from the roots. Nearly every *mali* will err in this direction and nearly fifty per cent of casualties soon after planting can be traced to this cause alone. Before planting remove the top layer of earth from the ball of earth which covers the roots, until the topmost root is exposed. The collar or junction where this root joins the stem should come as near to ground-level as possible, and the remainder of the stem should be clear above ground.

The roots should be well spread out when planting and the long roots should be placed as deep down as they will go. The plant is held in position while the earth is being filled in around

the roots. Hold the plant so that the ball of earth and roots will be rather low down in the hole in which it is to be planted. Gradually fill in the earth all round raising the plant a little at a time to the required level; this will give the roots a downward tendency. Press down the earth firmly all round while filling and when the job is completed, firm the earth on top with a good strong pressure, but avoid ramming. Loose planting causes a lot of trouble.

Do not plant when the soil is too wet and sticky. The soil should be nice and moist and thoroughly pulverised. Work it into a nice friable condition before planting.

As a rule plants should not be closer than three feet apart, and one foot from the sides of the bed. A bed five feet wide will accommodate a double row of plants.

If planting is done during the winter months the plants should be cut back before planting, but during the rains severe pruning will not be necessary. In fact if the plants can be lifted without any serious damage to the roots, or if pot-grown plants are to be planted, no pruning will be necessary. The plant requires all the leaf-growth it has, to cope with its great activity during this season of the year. If there is any wilting or drying of the stems the tops of these only should be cut off.

If the plants have travelled a long way or if they have suffered in any way from the shift they have had, the better plan would be to put them into large pots and keep them in a shady situation till they have fully recovered before planting in the open beds. If pots are not available, they may be heeled together about a foot or so apart in a bed in some cool situation.

During the winter months, very little water, if any, will be necessary immediately after planting. The soil should be nice and

damp before the plants are put into the beds. Avoid exciting the plant into active growth (by too much water) before the new roots have commenced to grow. If this is done, the plants will look as if they are growing well, but as soon as the reserve matter in the stems is exhausted, the plants will die as the new roots will not have had time to form to enable them to send up more nourishment. This is another cause of many casualties. If the ball of earth around the roots is dry it should be immersed in water before planting.

Treatment after Planting.

LITTLE attention will be necessary once the rose bushes have been planted in the beds, but this little attention should be freely given. The strictest vigil should be maintained for the appearance of "Suckers." These are the growths from the "Stock" or *desi* plant on which the rose was grafted. They grow out, as a rule, from the roots, though they may appear from anywhere below the point of union between the Stock and Scion. (The chapter on Propagation which is to follow later will explain these terms.) They should be cut off with a sharp knife as low down as possible. If they come from the roots, a clearance of the soil should be made around the roots and the suckers cut off close to the roots whence they spring. Doubtless many readers are familiar with the sight presented in the Rose Garden of an inexperienced grower. Around the bases of the plants can be seen a forest of suckers which have been allowed to develop without making any attempt to rid the plants of them. The merest novice should readily realise that to leave the suckers to grow unchecked must be prejudicial to the best interest. Ninety per cent of the roses grown to-day are worked on one stock or another.

If, however, the plants are on their own roots and suckers are produced, they should also be removed, unless they are retained for any particular reason, for instance, to replace the old plant or a portion of it, or to balance the shape of the plant itself. (Refer also to chapter "Reverting to Type" which will follow.)

The beds should always be kept free of weeds and the surface soil should be regularly forked up—this is important and yet how often is it done? As soon as the soil is in a workable condition after each watering, it should be forked up to a depth of three or four inches and pulverised.

A very common practice of mutilation of rose bushes is to be seen at the beginning of each cold weather. The *mali* in his rough and ready way will dig out the soil from around his rose plants, expose the roots to the sun for ten or fifteen days, cram in some manure, more often than not of unsuitable quality, and then flood the bed with water. In practice, a very harsh method, though in theory the necessity for this treatment, or rather I should say, the effect this treatment has on the plants is very necessary. The rose plant requires rest after making its season's growth, and in preparation for the duty it will soon be called upon to perform, in the shape of producing an abundance of flowers to brighten the home and garden. A more humane way of performing this operation is as follows:

About the 15th October prune the plants. (Instructions under this heading will follow later.) Withhold water for fifteen days or even longer. Keep the surface soil constantly pulverised. Test the subsoil occasionally to see that it is drying nicely. A bone-dry condition should be guarded against. Watch the plants themselves, they will tell you how much dryness they can contend with. So long as the new shoots look well and show no signs of wilting the

process of drying out the soil can be continued. Avoid drying out the soil too quickly by keeping the surface soil constantly forked up. If the process of drying out the soil can be continued for a whole month, so much the better for the plants.

When the plants have had sufficient rest, carefully remove the earth from around the roots to a depth of about six inches and to a circumference little greater than the spread of the plant above ground, without disturbing the soil immediately around the stem. A collar of earth six to eight inches should be left undisturbed around the stem to protect the stout roots from damage. These roots are the main passages through which the supply of nourishment reaches the plant. The *mali* will never do this, with the result that the main roots are injured much to the discomfort of the plant. Avoid cutting the main roots. The plant will do all the better if a few of the thinner roots are cut off. A well established rose garden will require the surface soil to be removed from the entire bed. With half the earth taken out mix an equal quantity of thoroughly decomposed cow manure, and return this compost to the roots. Do not expose the roots too long. If possible, the soil should be removed and the compost returned the same day. Some more earth and manure should be worked into the bed to bring it up to its correct level (about an inch from the surface), any earth not required may be removed entirely. After this a liberal supply of water should be given. One good flooding occasionally is better than fifty waterings with the watering-can at short intervals. Watering only the surface of the beds is positively injurious, as it induces the production of surface feeding roots, which although they benefit the plant for the time being, are liable to destruction from excessive heat and wind. Whatever the treatment may be in other countries, on the plains of India an occasional flooding is essential.

PART II

The Ethics of Pruning.

I CANNOT describe the art of Pruning in the form of "Dos" and "Do nots" I therefore ask for your attention. I do more, I earnestly urge you to *study* this subject. I have not come across a book written for the amateur rose grower which explains this subject to his satisfaction. After reading pages and pages of instructions on Pruning, he is usually left more confused than he was before. If I too fail in my endeavour, I may at least number myself among those who have tried.

The average amateur rose grower does not understand why he should prune at all. He will read through pages of instructions as to "How" and "When" but fails to acquire the reasons for pruning, or he will listen attentively to all you have to say and then—"Yes, yes, I understand all that, but I have seen wild roses in full bloom that have never known a pruning knife."—Just so, but now come with me to the jungles, into the great Himalayan mountains. I lead you to a place where human feet have never trod and show you a sight which human eye has never before seen—a field of wild roses in full bloom. The large, single pure-white flowers look at you with their yellow eyes. You gasp in wonderment. But let us be more observant than our friend who has an eye only for their beauty. What do we observe? Do you see the new shoots springing from the base without any flowers at all? They will carry next season's blooms. Now look at the shoots that are in bloom; these are mainly shoots a year old and carry the best blooms. There are also two-year old shoots with flowers, yes, even the three-year old carry a few blooms, but

the older shoots have a paucity of bloom and are starting to dwindle and die back. Look again closely there are even older shoots hidden by the leafy foliage, but alas! they are already practically dead—old, far too old for any useful purpose. Now look under the bushes, do you see the quantity of dead wood that lies there? Long since have they completed their cycle of life.

Will you ever again say that the wild roses are never pruned? No, of course, not; they have all been pruned in Nature's own way. This condition of circumstance would disfigure one's garden. We must prune to anticipate this. We prune to emulate Nature.

Most of our bush roses carry their best blooms on the same season's growth, *i.e.*, the growth they make immediately after pruning. On the other hand, some carry their blooms on one year's growth. The two or three years' growth bearing little or no blooms are therefore useless and should not be retained any longer. Again, others will bloom on fully mature shoots of two or three years old.

Certain classes such as the H. Ts. and Teas are so full of vigour that they will send out new growths even though the old wood remains; but if the grower cuts away some of the old shoots, the blooms from those remaining will be considerably improved.

From the foregoing you will have realised the necessity for pruning and also that you cannot apply any hard and fast rule for pruning all roses. Each variety must be studied and pruned according to its requirements. I only ask you to be observant. Get to know the class of rose with which you are dealing either by study or, if you know the name of the variety, from the catalogue; your difficulty will then be half solved.

I say half solved, because individual plants of one class may require different treatment under differing conditions. A vigorous plant which may demand a certain type of pruning in your garden may require such pruning *modified* in the garden of your neighbour. Your plant may be in a healthy vigorous condition while that of your unhappy neighbour is far from well. Although of the same variety they cannot be pruned alike.

How does the *mali* prune our roses? If they are bush plants he "makes them look tidy"! much in the same way as he does the hedge. Even so, most of our rose bushes dutifully respond to such treatment, because most of them bear their blooms on the season's growth. But what about those that are scandent in character? He will carefully cut away year by year the young shoots from the base leaving the older ones. Here again, some will answer to this ill-treatment, for do not some of our climbers carry their blooms on old wood? But what of our Ramblers such as Crimson Rambler, Blush Rambler and others; they will bloom well the first year, but as year follows year the blooms become fewer and poorer. Ask the *mali* his reason—the ground, really cannot be quite suitable!

Why do we prune in October and not earlier, say in July or August? Ask this question of your friend, "an authority" on rose growing, and he, I am sure, will not be able to tell you. The reason is a simple one. The winter-pruned rose develops lateral growth with adequate regularity, *i.e.*, all the side shoots grow more or less uniformly. But early in the season the sap is in active motion and will exude from the freshly cut surface. The lower eyes will find themselves clogged with too much food, as the result of the removal of the growth above, which would otherwise have disbursed the flow. They (the lower eyes)

therefore remain quiescent while the top bud or two, break into active growth. The result is, when the flowering period comes round, you have a few elongated growths carrying a few blooms in place of a well-balanced head full of blooms. Again, if we prune when the plant is in active growth, the roots find insufficient material (leaves) ready at hand to absorb the abundant supply of sap. This forces the roots to throw out strong basal shoots (suckers), which will absorb the energy of the plant to the detriment of the higher and more useful branches and may cause their death. If it is a budded plant—the suckers are useless. Pruning a rose bush too early will often cause its death for this reason. I have often heard it remarked that the bite of a goat is poisonous to the rose. It is not the bite that kills the plant but the fact that it has been severely pruned out of season.

I have tried to put before you the ethics of pruning, which I summarise below. These four points should be grasped thoroughly before you attempt to go any further.

- (1) Why we prune?
- (2) The necessity for pruning an individual class in an individual way.
- (3) The necessity for pruning an individual plant in an individual way.
- (4) When we prune?

The Method of Pruning.

IF you have fully grasped the above facts, I can now proceed with some general instructions such as "Do this" and "Do that," which I know you are eager for; but before I go further I earnestly urge you to understand the meaning of what has already been

said. I say this over and over again without any apology for repeating myself.

Many and varied are the implements recommended and advertised for pruning. The only essential articles are, a good strong, but not too heavy, pruning knife which should be kept well sharpened; a fine key-hole saw; a pair of secateurs; and a pair of hedge shears. This last named will cause surprise to many a critic but you will appreciate the necessity for it later.

The instructions given here are for general use and applicable to all roses. The type of pruning necessary for individual classes of roses will be found under the description of these classes, but on no account skip over what I have to say here. In the more common classes I have selected a typical variety of each section which, if that variety be studied, will, I hope, explain matters fully.

We will first deal with BUSH ROSES. Before you make any attempt at pruning, examine carefully from every angle the bush you intend to prune. Then decide on (1) the form of pruning necessary, by consulting the "class" of the rose to be pruned; (2) the approximate height to be pruned.

Now with the hedge shears clip off all growth six inches above the height you decide on and clear all the cut stems away. Put the shears away for you will not require them again for the same plant. With the secateurs cut away all dead wood. Remove all very soft and pithy growths, which have not matured sufficiently, to three or less eyes from their base. When cut they will be found to be nearly all pith.

You are now in a more advantageous position to view the plant, having removed a good deal of growth which at first obscured your view. Reconsider your "form of attack." You have still time to change your decision. You may now desire to retain a

shoot which you at first thought should be removed, or remove a stem which you at first thought necessary. Make a mental picture of a wine-glass and try and mould the same general shape into your rose bush. The base of the wine-glass is the ground. Cut out any basal growths that spring from here, unless the bush is on its own roots and you wish to retain a shoot or two for any special purpose. The stem of the wine-glass represents the stem of your rose bush, which should be free of all side-growths as far as practicable. The bowl or head of the wine-glass represents the bowl or head of the rose bush, and you endeavour now to transform the head of the rose bush into a bowl-shape. All rose bushes have not been trained so as to form a main stem, and, when this does not exist, the whole bush is treated as the "head."

Cut out the mass of unnecessary growth from the centre. Try and imagine you are coring an apple. You will find a lot of thin, entwined, sickly, and in the case of badly-pruned plants, old and hard wood here. Clean it all way. Remove the entire centre to admit a free access of air and light and to prevent the crossing and crowding of branches. Look at your plant now—you may only have three strong branches left growing out from the main stem. If that is so you have done no wrong. Could you have left four branches, the shape would perhaps have been better, but it is preferable to have three well-placed branches, than four with one of these badly placed. Five branches may have formed an ideal shape and even six may be required for a large bush, but more than this will be unnecessary.

All cutting so far has been done with the hedge shears, the secateurs and with the help of the saw on thick stems. The cut stems have been left a little longer than necessary. The pruning knife is now brought into use. First trim down those

short stumps which have to be cut right down to their base. Then with an upward slanting action cut off the tops left unfinished by the shears. Shorten the lateral growth on the three or four main branches which form the bowl, and your work is complete.

We now come to CLIMBING ROSES. The whole object of pruning as you will have observed is to encourage new growth. This applies with more force to climbing roses. Many climbing roses require very little pruning, if any, because most of them bear their blooms on old wood, but even so unless one or two old rods be removed occasionally there is no encouragement for new wood to develop, with the result that the climber will reach a stage, when it will be too old to be useful, earlier than it should have done. We may therefore say as a general rule that we prune climbing roses to prolong their life rather than to encourage the formation of flowers.

The general instructions are the same as for bush plants—
(1) Remove all dead wood, (2) Remove all unripe sappy growth of a pithy nature. Then consult the "class" of rose for further particulars.

An observant grower will have noticed that in the wild climbing rose, the new growths bend over and lie about close to the ground. This is Nature's way of maturing the rods. If instead of allowing nature to take her usual course, these rods were tied up in a vertical position, the tips would grow rapidly and remain in a weak, unripe condition. We should, therefore, defer the actual tying up until the new rods are thoroughly mature and ripe. If space permit, the rods should be pegged down to the ground as this will encourage ripening. The more horizontal a branch, the smaller the supply of nourishment to the buds (eyes), hence the quicker will they ripen.

Is it not simple? but do not run away to do your work of execution. Study the few Rules of Pruning which are to follow so that you will be in a position to give a reason for every stroke of your knife. If after the study of these rules, you do your execution clumsily, you will have no one but yourself to blame.

Rules for Pruning.

THERE are but three main rules to be observed :

- (1) The weaker the plant or stem the severer we must prune.
- (2) The more horizontal a branch the severer we must prune.
- (3) Always prune to an eye which points outwards.

(1) We will now take these in turn. You will have realised by this time that we prune in the first instance to encourage new growth. So in a weak plant or a weak stem you require more vigour. Now a weak branch, if left long, will have a considerable number of eyes to feed. It is already in a weak condition and can with difficulty find enough material to supply these eyes with nourishment to keep them alive, like "The poor old women who had so many children (to feed), she did not know what to do." But if we cut off a portion of the branch containing most of these eyes, the energy which the roots will exert on the branch, is concentrated upon the remaining eyes, and the nourishment which would have gone to feed all the eyes, will now go to feed the one or two left. This is the only logical conclusion. No sooner a weak stem is relieved of the responsibility of feeding a number of eyes, it will concentrate all its energy on the one or two left, and as these grow, the demand for nourishment grows. These new growths are then able to exert a "pull" on the roots, which the weak stem was incapable of doing, with the result

that in place of the weak stem a strong one full of vigour soon develops.

This conclusion is so obvious, yet the novice rarely understands its importance. A diminutive, weak plant will be left, after pruning, with just the tips of each branch beheaded. Again, I have often noticed an otherwise well-pruned bush with a thin, weak branch projecting out to almost its full length on one side, while on the other three sides strong branches have been cut well back. I ask the grower why he has left the defaulting branch, and his reason for so doing is to "balance" the bush. This weak stem or branch is more likely to die outright, because of the greater demand exerted on the branches which have been cut well back. Had this branch been cut right back to one or two eyes, a strong growth would soon have developed from one of the eyes to "balance" the bush.

Exactly the same thing happens with a weak plant. If the thin weak branches are cut right back to one or two eyes, strong vigorous growths will soon develop which will exert a "pull" on the roots. The weak stems were incapable of exerting this pull and the roots, which were never called on to function unduly, in turn did not exert themselves, resulting in a weak, unhealthy plant.

Here let me give a word of warning. The correct interpretation of this rule is sometimes misunderstood. On one occasion a friend of mine had a Tea rose which normally grew to a height of about two feet. At pruning time he cut this back to about nine inches.

The day previous I had shown him how to prune a vigorous H. P. which had grown to a height of about five feet. This was cut back to about two feet. My friend then arrived at an illogical

conclusion. He compared the perfectly normal Tea rose with the perfectly normal H.P. and concluded that the former was a "weak" plant in comparison. It would have been as absurd to compare the H. P. with a grape vine, and if this latter had been cut back from thirty feet to say four feet what would have been left of the H. P. after pruning?

The constitution of the plant can be judged only by comparison with a plant of exactly the same variety or a mental picture of what it should be in perfect health. To decide whether a plant is weak or otherwise should present no difficulty to the average novice.

(2) The more horizontal a branch, the severer we must prune.

The nearer a branch approaches the vertical, the greater will be the flow of sap to this branch. The reason is simple—because there is no obstacle to impede the flow as the tendency of the sap is to flow straight upwards. But the more horizontal the branch the smaller the supply of nourishment. It obviously follows that to divert a larger supply of sap to this branch the severer we must prune it.

(3) Always prune to an eye which points outwards.

In other words, you prune to an eye which points in the direction you wish the resulting growth to take. It should never point towards the centre of the bush, but you may sometimes require the branch to grow either to the right or left of the stem to fill a gap. In any case prune back to a nice plump eye.

It so happens that for one reason or another a plant will not respond to the treatment applied to correct its evil ways. Sometimes a plant will refuse to send out a strong main branch where desired or a basal growth if required, or such growths, if they are produced, are sappy and refuse to ripen and so are quite unsuitable.

What is one to do then? I quote from Shakespeare:—

“ Dogberry: You are to bid any man stand, in the prince’s name.

Watch: How if a’ will not stand?

Dogberry: Why, then take no note of him, but let him go; and presently call the rest of the watch together, and thank God you are rid of a knave.” Everything must be done to promote new growth, but when success does not result then take Dogberry’s advice and let the plant go to make way for a better one. Many growers consider it wrong to prune a weak plant severely. If the plant does not respond to severe pruning try light pruning the next time. If all alternatives fail then it is time to make room for another plant.

Classes of Roses.

I WILL here endeavour to describe a few of the more important classes into which this large family is divided. My object in so doing is, primarily, to acquaint the reader with the type of pruning necessary for each class. I have mentioned before that you cannot prune a rose without knowing the class to which it belongs, and you must therefore make yourself familiar with the class of rose with which you are dealing before you attempt to prune.

I am afraid I have tried your patience too long, and you are beginning to think there is really something mysterious about pruning roses in spite of my assertion to the contrary.

The art of pruning which I urge you to study, really amounts to but four subjects after all:—

- (1) The Ethics of Pruning.
- (2) The Method of Pruning.
- (3) The Rules of Pruning.
- (4) The Individual Pruning of Different Classes.

I may have taken longer to explain these than you had expected, but I have dealt only with the essential points and have added nothing other than what I consider absolutely necessary.

Hybrid Perpetual or H.P. Rose.

THE name "Perpetual" is a misnomer as many are not at all perpetual in flowering. In England they will flower throughout the Summer and Autumn, but here on the Plains of India we can rely on good flowers only in winter so the term may be ruled out as far as we are concerned.

Some of our most refined blooms with rich colouring come from this class. They are shy bloomers as compared with other classes. Frau Karl Druschki and Hugh Dickson are typical examples. The plants are robust having as a rule few thorns along their stems as compared with Teas or H. Ts.

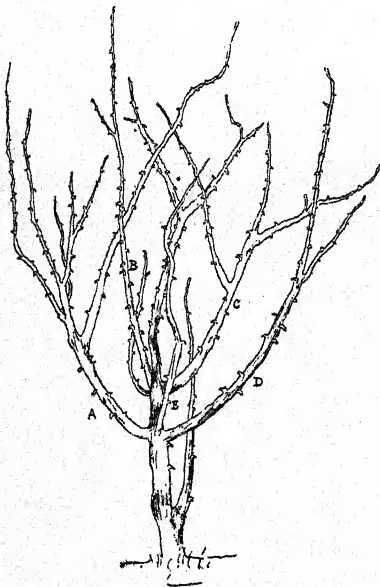


Fig. 14

An H. P. Rose Before Pruning.

Pruning.—I consider this class the easiest subject to prune, because of their fewer branches, and nice strong ones at that, with very few thorns. It is easier to grasp the general principles of pruning, with bush H. Ps. than it is with any other class. I would therefore advise the novice to have his first lessons in pruning with this class.

Cut back the main branches which have not been pruned previously and which form the "head" of the bush, to about half their length, and the laterals on what remains of these branches, to five or six eyes. It should be understood that by "main branches" is meant the full length of the branch from its union with the main stem to the extreme end of its growth. Similarly the older branches which are to be retained to form the "head" are cut back to about half their length and the laterals to five or six eyes. The full length of the branch should be taken into account when gauging their length, and not merely the new growths which have commenced from the previous year's pruning.

Do not be afraid to cut away some of the old wood even if you have to sacrifice some new growths growing from these old stems—you know the reason. If not go right back to the "Ethics of Pruning." Aim at keeping a constant supply of one, two and three-year old wood (main branches) in equal proportion. The new shoots which grow from the two-year old wood will bear the

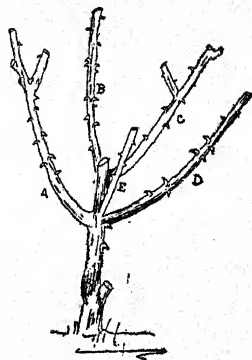


Fig. 15

The same H. P. Rose After Pruning.

This shows a vigorous growing H. P. rose after pruning, and Fig. 14 the same plant before this operation was performed. Taking the stems which remain after pruning we have

(A) an old stem with three shoots of the previous year's growth.

(B) a young vigorous stem.

(C) another old stem with two young shoots.

(D) another vigorous young growth.

(E) a rather weak young shoot.

Compare this illustration with Fig. 14 and you will notice that the centre stem has been removed, and also the weak growth below stem B. The main stem has also been freed of a growth low down which is not required.

best flowers, whereas the one-year old wood will carry on the good work the following year.

The climbing roses in this section require no more pruning than the general instructions described under "Method of Pruning" and may be left pretty much to their natural habit of growth. Avoid overcrowding, remove some of the new growths if necessary. Should the base of the plants become bare as they grow older, this can be rectified by bending down or tying some new shoots to cover the bare parts or by close pruning some of the older shoots.

Tea or T. Rose.

THE Tea rose is the spoilt child of the family. Natives of China, they seem to keep in their heart all the wealth of which they had

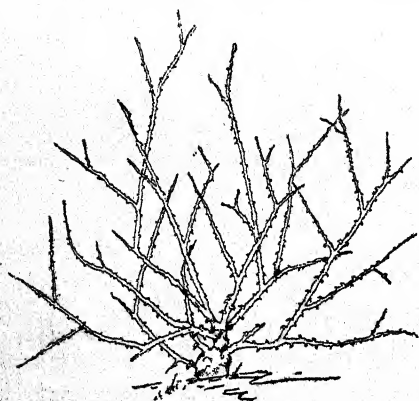


Fig. 16

A Tea Rose before Pruning.

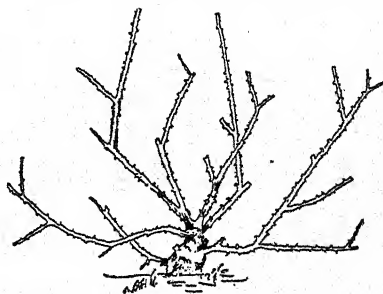


Fig. 17

The same T. rose after pruning.

This shows a T. rose after pruning. Fig. 16 the same rose before pruning. By comparing this rose with the H.P., the difference of growth is easily distinguishable. The plant is much branched containing a number of rather thin stems full of thorns. It will be noticed that the pruning has been rather light. All thin crossing shoots have been removed. The centre shoot of the fork shown in the middle of the plant might also, in all probability, be taken away with advantage.

a glimpse there in the Far East. Their colours, so rich, so warm, so pure, so true and tender, of infinite variety, from nankeen yellow to dark yellow, pale, pure white, salmon pink, bright red and carmine, every shade that the heavens give us at the rising and setting of the sun, live again in these flowers. All without exception blossom abundantly and are distinctly tea scented. The growth of the plant is much branched and slender and somewhat spreading, carrying a lot of rather spindly, twiggy wood easily distinguished from the H. Ps. due to this contrast in growth. They show a hardiness in resisting heat and drought.

Pruning.—In addition to the removal of the wood as explained under the general instructions for pruning, remove all thin spray-like shoots, which characterise this class. While this proviso applies more or less to all pruning, it is of special importance with Tea roses.

Cut back the main branches so as to leave two-thirds of their growth and shorten the laterals on these to three or four eyes. The habit of growth being more horizontal than H. Ps, more stems may be allowed to remain, without overcrowding.

Example :—Marie Van Houtte, Maman Cochet, Anna Olivier, Lady Hillingdon, Madame Jean Dupuy.

Climbing roses in this section are pruned in the same way as the climbing H. Ps.

Hybrid Tea or H. T. Rose.

THIS is undoubtedly our most useful class. As a result of crossing the H. P. with the T. Rose we have this beautiful result. The plant and the flower have developed all the good points from the H. P. and T. without absorbing their bad points. The result is a plant of vigorous growth and a profuse bloomer. The blooms

are as a rule as refined as the H. Ps. while the plant derives its quality of productiveness from the T.

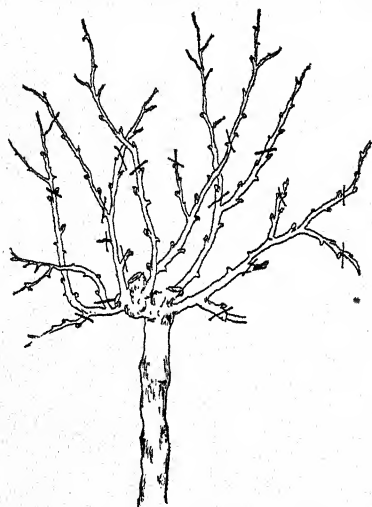


Fig. 18
An H. T. Standard Rose.

This shows the "head" of an H. T. rose "worked" on a strong "desi" stem to form a Standard. The short dark lines show where the branches are to be cut off when pruning. The plant shows the centre cleared of old and dead wood while the general pruning is not as light as the T. nor as severe as the H.P.

By comparing this illustration with the H. P. and T. it will be readily seen how this plant has developed the characteristics of both plants which are its parents. It is almost as strong growing as the H. P. and produces nearly as many branches as the T. from which it also takes its more spreading habit of growth.

Pruning.—They vary in habit of growth, some approach the H. Ps. while others resemble the Ts. Those that approach the H. Ps. may be pruned exactly in the same manner as described for them, while those of less robust growth are pruned like the Teas.

With this rose a difficulty will occasionally present itself to the novice. The plant will sometimes push up a strong shoot which, as it were, dominates the plant. On the principle that the stronger the shoot, the longer it should be left, this shoot is left practically unpruned. The balance of the plant is also to be considered, not only from the point of view of symmetry, but also from the point of distribution of sap. The rule, therefore, in this case does not strictly apply, because there is yet another rule—we give vigour to a branch by leaving it long if all the other branches are pruned short.

The long branch in this case being robust will attract all the sap, and dominate the rest of the plant. Here then is the exception to the rule which justifies it. In this case the long robust shoot should be reduced to less than the others, but if it can be pegged down long before pruning time to ripen it, so much the better.

Example :—Grüss an Teplitz, C. V. Haworth, Dean Hole, General McArthur.

Climbing roses in this section are pruned in the same way as the Climbing H.Ps.

The Wichuraiana Rose.

THESE are of the Rambler type with which we are all so familiar. They throw out long basal growths every year to replace the old wood. The few dwarf varieties may be classified as dwarf Polyanthas and treated as such.

The Ramblers are the most important and are of two distinct types, the Multiflora Rambler (Polyantha) and the Wichuraiana Rambler. The former type yields its best blooms on year-old strong shoots, the older wood being practically useless. A typical example is Crimson Rambler. The Wichuraiana Rambler type, though it also throws out strong basal rods every year will bear profusely for several seasons on the laterals of old wood provided they (the laterals) are cut back severely. A typical example is Dorothy Perkins. This type is more useful for covering a house wall as the old wood can be tied up permanently, whereas the Crimson Rambler would be a failure due to the old wood being cut away yearly.

Pruning.—The method of pruning is obvious. The Multiflora type must have all old wood cut right away, or only such portions from which a nice strong new rod emanates should be retained but

if there is sufficient new basal growth to cover the wall or frame on which it is trained, remove all old wood.

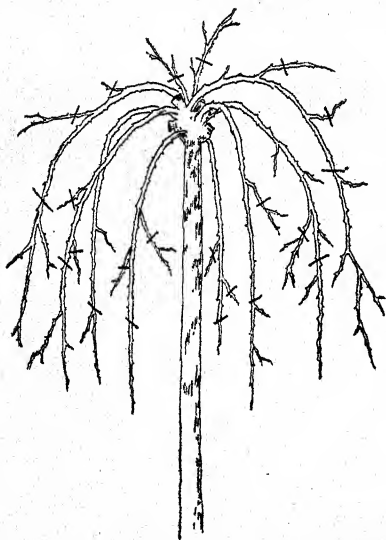


Fig. 19

A Weeping Standard Rose.

This illustrates a Weeping Standard. Old and dead wood has been removed as can be easily seen, and the plant is ready to receive its final pruning. The short dark lines show where the stems are to be cut off when pruning.

means a corresponding loss of ill-spared blooms. The reader will be well advised to assist the ripening of such wood long before pruning time, as previously explained.

Bourbon Rose.

THIS class resembles the H. P. very closely, but is unlike it in so much as the flowers are, as a rule, produced in clusters on stems

The Wichuraiana type requires only the removal of very old wood, which should be replaced by one or more well-matured one-year old stems every year. Soft unripe wood and also new growths which are in excess of requirements should be removed to avoid over-crowding. Train the stems well out and if you find you have too many, one or two of the oldest and most worn-out should be sacrificed. Cut back closely all laterals on the rods which have been retained. It is essential that the reader should remember that all Ramblers must have their wood in a sound mature condition at the time of pruning, for the removal of unripe wood, though necessary,

which are rather stiff. The foliage is rather thick and succulent in appearance bearing a distinct gloss.

The variety *Souvenir de la Malmaison*, one of the best known and most cultivated of all roses, is a worthy representative of this class.

Pruning.—Removal of old worn-out shoots and the replacement of these by new wood is practically all the pruning they require. The lower side shoots should be shortened to about six eyes while the growing tips of the higher ones need only be nipped off. They bloom mainly on laterals from old wood.

Polyantha Rose (Pompon).

THESE rose bushes are distinguished by the smallness of their flowers which are almost miniature roses, but always perfect in shape. This class has a charm of its own. The flowers are produced in great profusion in thick bunches. The climbing varieties have been dealt with under "The *Wichuraiana* Rose."

Pruning.—They will adapt themselves to any type of pruning. If grown close together as an edging to a bed or as ground work around a Standard, they can be cut back close to the ground. On the other hand, on banks or other suitable places they may be left to themselves, merely the general instructions being necessary.

Examples :—*Marie Pavie*, *Perle d'Or*, *Cecile Brunner*, *Edith Cavell*, *Little Meg*.

Noisette Rose.

THEY are all of a climbing habit, the flowers being produced in clusters from 4 or 5 to as many as 20 flowers on one branch. They are akin to the T. from which they are easily distinguished by the mode of carrying their flowers in clusters. Like the

T. rose they are delicately perfumed. The Maréchal Niel with which we are all so familiar is a typical example of this class, so is Reve d'Or and William Allen Richardson.

Pruning.—These require very little pruning. Only the very old and worn out stems should be removed. The side branches should be cut back to about half their length, and the main stems shortened a little if the general symmetry of the plant requires it, but not more than is necessary. At least one or two new rods should be encouraged every year. The flowers are borne on well-ripened laterals, therefore all healthy old wood must be retained.

Sempervirens.

No pruning required except thinning out sparingly and the plants are left to ramble untouched over banks.

Boursaults.

THEY are high growers throwing up rigid basal shoots. Previous year's growth will produce strong laterals. No pruning proper is necessary. Trained up to 10 feet long.

Banksians.

REQUIRE no pruning proper. Old plants required to be cut back to restore vigour. The laterals on the third year wood will produce the flowers on tiny little flower stems. Do not cut out any except dead shoots for the first three years.

Chinas.

REQUIRE to be thinned out well and some strong shoots cut back to encourage new growth. Very little shortening of other branches is necessary.

Dijon Teas.

LEAVE the strong growing shoots about 6 feet long ; others less strong cut back to 4 feet ; and the weaker ones to 2 or 3 feet, so as to clothe the base. Gloire de Dijon is an example.

Austrian Briars.

MUCH of the bloom is borne on laterals of three-year old wood. Strong one-year and two-year shoots should also be encouraged. Prune according to general instructions and train bushes 4 feet to 6 feet high.

Pernetiana.

PRUNE same as H. Ts. This class is of comparatively recent introduction. Among them are the best yellows and many others of vivid colourings.

Scotch Briars.

LITTLE pruning is required, only cutting away dead and weak wood and those which overcrowd the bush. Young basal growth to be cut short to clothe the base. Train to form bushes about 3 feet high.

Sweet Briars.

PRUNE according to general pruning instructions and train to about 4 feet high. The more vigorous Penzance Briars are trained 6 to 10 feet high. The strong growing basal new shoots are left long and the previous year's shoots pruned to about half their length ; the laterals on what remains are left long.

Ayrshires.

No pruning required except thinning out sparingly.

Provence Rose.

PRUNE according to general instructions and shorten strong young shoots and the best laterals on two-year old wood down to about six eyes, leaving the plants to form bushes about two feet high.

Moss Rose.

SAME as for Provence Rose but plants left a little taller.

Miniature Provence.

PRUNE according to general instructions and cut down to 6 inches off the ground.

French and Damask Roses.

THE tall-growing varieties are treated as tall bushes or as pillars 5 feet to 6 feet high. Prune according to general instructions, retain the best one and two-year old wood and the best laterals and remove the rest.

The dwarf-growing plants are treated similarly but the bushes are left $2\frac{1}{2}$ feet to 3 feet high.

Propagation.

THERE are several ways by which the rose can be propagated —by Seed, Grafting, Division of Roots, Suckers, Layers Budding and Cutting. I propose to deal only with the last two as the amateur will seldom, if ever, be required to use any other method. "Budding" is a form of grafting. It means nothing more than removing a "bud" or "eye" from the stem of the parent rose bush and inserting it under the bark of another rose stem, from whence it will grow as the future bush.

Propagation by "cuttings" means the cutting off of a stem from a rose bush and inserting it into prepared soil to enable it to produce roots and grow into the future plant.

Plants, as a result of the former operation, are spoken of as "Budded Plants" while those produced from cuttings are spoken of as "Plants on their own roots."

Budding.

BEFORE describing the method of conducting this operation the terms "Stock" and "Scion" will have to be explained. The Stock is the plant on which the bud is grafted, the essential qualities of which are : --

(1) Strong and vigorous habit of growth, hardy, easy of propagation by cuttings and thoroughly suited to the climate in which grown. (2) The bark must not be tight-fitting but easy of removal without injury to the plant. In India as a rule we bud on the Rose Edouard stock, or as the *mali* calls it "Desi Gulab."

The Scion is the resulting growth from the bud after the union has taken place.

Budding is not only a most simple operation but is perhaps the most fascinating of all cultural methods connected with the rose. To those lovers of gardens who consider any operation connected with the production of flowers "beneath" them, I would recommend this art as a pleasant pastime. It is sure to reawaken in the mind that latent sense of love for things natural.

November and December are the best months for this operation. The operation, though simplicity itself, is rather difficult to describe. A few minutes spent in watching a skilled hand will teach you more than the most elaborate paper description. The sketches produced here will assist the reader.

Condition of Stock and Scion.

BOTH the Stock and Scion must be in a suitable condition for the work. The Stock should be full of vigour and the sap flowing

freely between the outer bark and the inner wood. A test is easily made to judge this condition. Make a T-shaped incision in the bark just deep enough to cut through it without injury to the wood below. If the bark lifts up easily when the end of the ivory handle of the budding-knife is inserted under it, the right condition is present. The same condition should prevail in the Scion. If, after cutting out the bud, the piece of wood which adheres to the inside is easily removed, without injury to the bud, the time is ripe for the operation. Should the bark be in the least obstinate when lifting, do not on any account force it, but water the plant well and try again a week or so later.

The Stock should be in strong active growth and a plant much older than a year should not be used. The Bud should be nice and plump but fully dormant, and taken from well-ripened young wood.

Ample water should be given to the stock and the parent plant, from which the buds are to be removed, some days before budding operations are to commence. This will make the bark run much easier.

Removing the Bud.

Cut off a stem from the parent plant which has a suitable number of buds, a stem that is in flower or has just done flowering will be found to give the best buds. Remove all the leaves, leaving about half an inch of the leaf-stalk. The buds will be found nestling at the base of these stalks. The next operation is to slice off the bud starting with the knife half an inch above the bud and cutting downwards to finish off half an inch below the bud. Remove carefully, with the point of the knife, the small piece of wood at the base of the bud so that only the bud and a shell of bark remain, in shape

somewhat like a shield. If, after removing the wood, the seat or heel of the bud is prominent, it is fit for use. But, if in the process of removing the small portion of rose wood, this seat is torn out leaving a small hollow, the bud is absolutely useless.

Inserting the Bud.

Cut an incision in the stock in the shape of the letter T. This should be made as low down as possible, about 4 to 6 inches from the base. Prize up the bark carefully with the end of the ivory handle of the budding-knife. While so doing bend the stem over on the side of the incision to assist the bark lifting off the wood. Slip the bud well down to the bottom of the cut and press it gently against the stem. The bark of the stem is then brought over so as to overlap the "shield" and hold it securely in position. A piece of plantain fibre or raffia is then wrapped around the stem above and below the bud, firmly and yet not too tightly. Care should be taken to prevent the seat of the bud buckling or lifting away from the wood of the stock on which it should firmly rest.

The *mali* makes one great error when budding roses. He will cut off the branches he requires for budding, collect them in a heap, make himself comfortable in one of his favourite haunts, out of view with his *hooka* beside him, and proceed to cut out the eyes, carefully dropping them into a small pan of water which he has brought for the purpose. Having prepared a sufficient number of buds in this way he will take himself off to do the budding. This practice must be discouraged. One is only to reflect a little to see the injury he is doing. A cut on one's finger, if immediately stitched and dressed, will heal without any trouble, but if neglected for a time the union is more difficult and complications may set in.

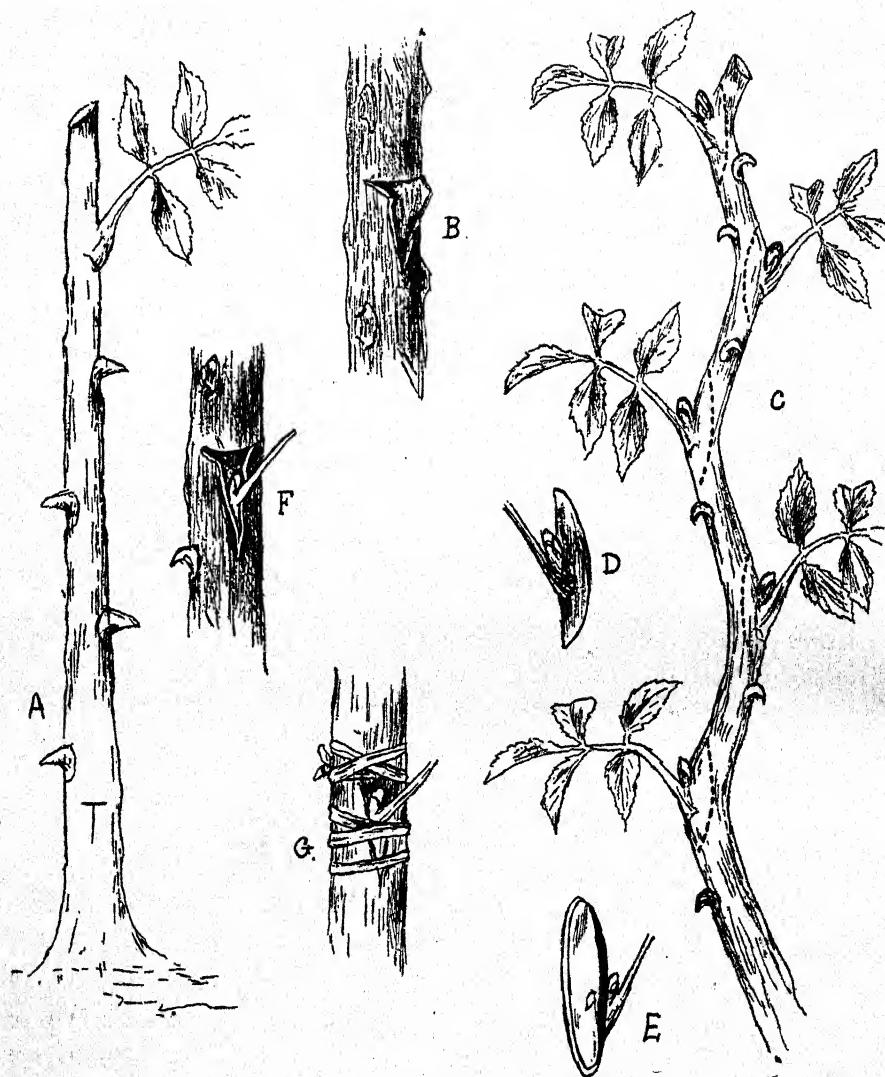


Fig. 20

BUDDING

- A. The Stock plant with T-shaped slit made in the bark.
- B. T-cut opened to receive bud.
- C. Stem showing buds ready to be removed along dotted lines.
- D. Side view of bud and shield with leaf-stem removed.
- E. Inside view of bud showing the base of the bud.
- F. The bud inserted.
- G. The bud bound in position by a soft ligature.

Exactly the same thing happens with the rose buds. The water washes off all the glutinous substance which the tissues are exuding all the time in an endeavour to cause healing.

The stems which are cut off may by all means be placed in water to keep them fresh, but when the bud is removed it should be inserted into the stock without any delay. As each bud is removed it should be inserted and tied up before the next bud is taken off.

Another habit of the *mali* is to put the bud into his mouth with the object of moistening it before inserting it into position. This will also defeat the object of a quick union of the two tissues.

The *mali* is apt to blame cloudy weather for his failures in budding, in fact a cloudy day appears to be a recognised bad day for budding even by the more initiated. The belief is entirely wrong. I have found a cloudy day preferable to a hot sunny one, though a wet day is unsatisfactory for the same reasons given above.

After Treatment.

THE day after the bud is inserted the growing tip of the stock is cut right off. Two or three days after this, three or four eyes just below the cut, will have commenced to grow. Cut back still further retaining only the lowest eye which is showing leaf growth. From now onwards do not allow any eye above the inserted bud to "get right away." If this should happen the inserted bud will remain more or less dormant. The plan to be followed is to allow an eye somewhere above the inserted bud to grow a little and then cut it off. Once the bud has commenced to grow and is about an inch long after 15 to 20 days, all growth above it should be cut off. All that this means is to cut off a

small portion of the stock above the bud at intervals of two or three days until there is no more growth left above the inserted bud. The necessity for one or two small shoots above the inserted bud before this latter has commenced to grow, is to enable the sap to be drawn up past the inserted bud. Never allow the eyes above the inserted bud to grow more vigorously than the bud itself. At the time when the last piece is lopped off, the inserted bud should be making strong growth. The fibre with which the bud was secured is then carefully removed.

From now onwards all the care that will be necessary will be (1) constant removal of suckers and any growth below the bud. This should be thoroughly done and never neglected; (2) Constant weeding and forking up of the beds; (3) careful watering; and (4) at least one mulching with some thoroughly decomposed manure in February.

By the time July comes round again the plants will have developed into fine sturdy little bushes ready to plant out in their permanent position.

Preparation of Stock Plants for Budding.

IN the month of November cuttings are made from Rose Edouard stock and inserted in the open ground in beds 8 inches apart. You may rely on a minimum of 80 per cent producing good strong plants for Budding. No more attention other than watering and weeding will be necessary until July, when the monsoon is well established. The rooted cuttings are then carefully taken up and planted out 18 inches apart in prepared nursery beds. By the 15th September they should all be closely pruned down to 6 inches. They will soon make a number of basal growths from the roots. One or two of the stronger ones should be encouraged and all other

growths, including the old stumps, cut right down to ground level. A careful survey should again be made early in October. It will be found that some plants have thrown up other strong basal growths (stronger than the ones previously retained). In such cases these basal growths will make better stock for budding than the earlier selection which should now be cut away, and one nice, stout sappy, new and strong growth retained. Those plants which have been less obliging have still got another month to produce the desired stem on which to bud, but if by the 15th November, this has not been accomplished there is no alternative but to bud on the stem selected in September. Aim at a nice plump sappy stem. On poor or shady ground this will never result. Manure dug in around the roots will help considerably on poor soil. By about the 15th November at the time of budding, all growth should be cut right away except the strongest, which is retained to receive the bud.

Cuttings.

THE method of propagating roses by cuttings is too well known to require any lengthy description, but there are many errors the *mali* makes when he attempts raising plants by this means, and for this reason he succeeds only with the more hardy kinds which in spite of his ill treatment, live to make plants.

If he uses a knife at all, it is usually blunt, but more often than not he will use his *khurpi* with which he cuts, or rather I should say, smashes the cuttings at both ends. How any cutting can be induced to strike roots after this treatment is due only to their recuperative powers. He then jabs a hole in the ground with his *khurpi* and forces the cutting into this unsuitable cavity, which is much too large at the top and much too narrow at the bottom. The jagged ends of the cuttings are still further lacerated

in the process of insertion and more often than not, the ends never reach the bottom, and the cuttings hang or are suspended in mid-air. Alas! even their recuperative powers cannot help them now.

Two tools only are required, a strong sharp knife and an implement for making the hole in the soil. This latter is made of a rod of $\frac{1}{2}$ inch round iron a foot long. Eight inches of this are inserted into a piece of rounded wood about an inch and a half in diameter to form the handle. When made this will look something like a screw-driver without the sharpened edge.

Selection of Wood.

THE proper time for making cuttings is the month of November. Most of the wood that comes off when pruning can be made use of. Pruning of such branches that are required for this purpose may be deferred till wanted. Year-old wood, well matured, will give the best results. They should be cut in pieces about eight or nine inches long. The lower end is cut straight across so that it can rest *flat* on the bottom of the hole which is made to receive it. This cut should be made just below an eye and as near to it as possible, without injuring it. The cut at the top should be made just above an eye and slanting to permit of all moisture draining off. Leave one or two leaves at the top and remove all others without injury to the eyes.

Inserting the Cutting.

WITH the screw-driver-like tool just described, make the hole by forcing the business end into the bed right up to the handle (4 inches deep). Fill into this hole about half an inch of clear river sand and press it down firmly with the tool. Insert the cutting

into the hole making sure that the end rests *flat* on the sand. Now reverse the tool and with the handle ram in the earth firmly around the cutting. This ramming is essential to ensure the cutting being made perfectly secure. Cuttings may be inserted in this manner six to eight inches apart.

The soil should be in a nice moist condition at the time and a light sprinkling of water given immediately afterwards. Two or three days later a thorough soaking should be given. Shade must be provided for the first ten or fifteen days to prevent evaporation both from the cutting and the soil.

By the end of January or thereabout the cuttings will have rooted sufficiently to necessitate their removal, when they should be potted off singly into pots or planted in nursery beds until required for their final planting.

If only a few cuttings are to be made or if the more delicate varieties are to be used, it will be preferable to strike the cuttings in pots. The soil in this case is made up of equal quantities of sand and leaf-mould. The pots should be wide and at least eight inches deep. Each pot will accommodate six to eight cuttings. But in this case the rooted cuttings should be potted off singly after two months or so from the time of insertion, *i.e.*, after they have made appreciable growth.

Budded Roses or Roses on Their Own Roots ?

THIS is a question which very frequently arises—Which of the two is preferable? Without any hesitation I would say the rose on its own roots whenever possible.

The rose was never-intended to grow upon the same original trunk like a Cypress. The tendency is for the rose in its natural course to throw out new growths regularly from the roots; and

these new growths in turn develop new roots from near the old roots whence they spring. In this manner they continue to prolong their life, long after the original plant and roots have died. This is why Standards are soon past their prime.

Similarly with the cultivated rose, by retaining a new sucker or two the original plant can be replaced, and instead of an old worn-out plant, a strong young plant, full of vigour is made to grow with the least possible trouble and inconvenience. Not so with the budded plants. They are rarely useful after five or six years.

But Budded roses have other advantages. Many roses do not strike readily from cuttings, perhaps all the better ones do not, or the percentage of "takes" is so small, we are obliged to rule out this method of propagation. Again, a stem from a rose bush may make two suitable cuttings, whereas it would contain at least a dozen suitable eyes for budding. Allowing for 50 per cent "takes" in each case, we have one plant of the former as against six-budded plants. And yet again, most of the better roses being devoid of inherent strength are constitutionally weak, and require to be budded on an indigenous stock to enable them to develop into strong healthy plants.

Reverting to Type.

THE necessity for writing on this subject has been dictated by the fact that it is very little understood. A typical letter of many which I have received in the execution of my duties is as follows :

"Dear Sir,

Last year I bought a dozen rose plants from you which produced beautiful flowers and were the admiration of everyone in the Station. This year they have all reverted to type and have produced nothing but *desi* flowers. I am very disappointed indeed

and surprised that you should have sent me such bad roses. May I hope for any refund on the amount paid?

Yours etc., etc."

Now, once a rose plant has produced "beautiful flowers" that same rose plant can never revert back to type but will always produce the same flowers. It may produce poorer specimens due to ill-feeding but the type cannot alter. There is nothing mysterious in this. What then has happened? Let me explain.

The plants sent were "grafted" or "budded" plants. Through ignorance or carelessness the graft was allowed to die out and the *desi* or rose Edouard stock survived.

Supposing it were possible to cut off the arm of a white man from the shoulder and graft in its place the arm of a negro. So long as that white man lived, the arm would be the arm of the negro—black—it could never change colour nor could the fingers alter their shape to those of the white man. In fact the arm would remain the arm of the negro in shape, colour, thickness of nails, hair and in all other details.

In the same way a La France rose grafted on a *desi* rose plant would produce La France roses without variation.

But now suppose another arm commenced to grow out from the shoulder just below the grafted arm and this new arm was allowed to grow at the expense of the negro's arm, ultimately causing the latter to wither and drop off. The new arm would then be the arm of the white man and would never produce any likeness to the arm of the negro. The doctor who performed the operation would probably die of shock if he returned after a few years to find that the arm of the negro had turned white, which, of course, it never did! or the patient may demand the return of his money! This then is what happened to the rose plants referred

to in the letter reproduced above. The graft was allowed to die and the rose Edouard threw out new shoots and survived.

Now again, let us suppose that a white man marries a negress. The product of the union may be a child of a different hue to either parent or may be to all appearances—white. Suppose again, this white offspring marries a pure white person. Now the offspring of this union, can be black or in “botanical language” the offspring has reverted “back to type.” That is, the product from the seed of the union can only “revert to type” or produce offsprings which “revert to type,” but the graft cannot alter.

In the same way the plant grown from the seed of the La France rose can revert back to type, but as you are never likely to grow roses from seed I will not deal further with the subject.

The object lesson which I have tried to teach is, First: Learn to distinguish the *desi* from the cultivated rose. Second: Always remove *desi* suckers or branches from your rose plants as soon as they appear.

This subject now leads me on to another supposed phenomenon. Stories such as the following have often been told me by people of two categories, those who have been tricked in some “mysterious” way, and others who have deliberately deviated from the truth.

“My father once had two rose plants, one with red flowers, one with white, growing in the same bed. The white one died, and now to our surprise the red one produces red flowers on one side and white on the other.” This I found on examination to be actually the truth. Mysterious wasn’t it? What actually happened was this. The *mali*, being a keen individual and finding the white rose plant trampled down one morning, took a bud from it and grafted it on the red rose plant. When this grew, it produced white flowers, in the same manner as the black arm grew from

one side of the white man while a white arm grew from the other.

Another story ran something like this. "My father is a very keen gardener. He once grafted a beautiful dark red rose on to a very ordinary white rose, and the result was wonderful red flowers striped with white, and it nearly broke his heart when the plant died." This person belonged to the second category.

These seemingly wonderful results lead me on to another subject.

Sports.

A ROSE is said to "sport" when a plant produces on one or more branches flowers of a colour different from that natural to the variety.

It must be remembered that present-day roses are all the result of careful scientific crossing of one variety with another (not grafting, mind you) and as a result of these crossings new varieties are evolved.

The seeds from these crossings are sown and the resulting plant carefully grown. One plant only out of a hundred or more may produce a rose of some distinct feature worthy of cultivation. Now this single plant is grown for a number of years and is multiplied by grafting. If throughout this period this plant and those grafted from it have produced flowers of the same distinct features without the slightest variation, the plant is said to be "fixed." The variety is then named and registered as a new variety.

You will now understand why some plants "sport" or in other words throw back in some feature to their ancestors. It is possible for any plant to produce a "sport." This, however,

rarely happens with roses. This "sport" usually occurs quite spontaneously. Only one flower on a plant may be so produced and it may never occur again. On the other hand, it is possible for a plant to produce "sports" on one branch only and continue to do so yearly. Cuttings or grafts taken from such branches may produce blossoms of the same colour, and if they continue to do so for a number of years the plant is said to be "fixed" and a new variety may also be evolved in this way.

PART III

Soil and Manure.

I HAVE previously stated that wherever habitation is possible, the rose can be cultivated. Where the soil is reasonably good the cultural hints already given will be all that are necessary to grow roses successfully. Where the soil is too sandy or porous, a part of the soil which is removed from the beds at the time of their preparation may be exchanged for fresh soil from some suitable spot, or liberal additions of leaf-mould worked into the beds will rectify matters. If, on the other hand, the soil is clayey, of a hard tenacious character, liberal applications of sand will rectify this condition.

A sandy soil may be reconditioned further by the addition of Bone Meal applied as a top-dressing at the rate of 4 oz. to a square yard and worked in 3 or 4 inches deep, whereas Basic Slag applied in the same manner as the Bone Meal to a clayey soil, will make it light and friable. These applications should be given once a year during the month of March.

Deep cultivation and constant forking up of the beds will do more for the happiness of the rose bushes than a lot of wasted energy directed on the supposed unsuitability of the soil. I have no time for the faddist who gives his plants concentrated doses of fertilisers in pill form, but I have less time for the careless cultivator who gives no thought to the cultivation of the soil around the roots of his rose bushes. Keep the soil constantly worked up to a nice friable condition, then, and then only, will the money and labour spent on Mulching, Manure, Fertilisers and Liquid

Manure be well spent, and the soil will then be in a fit condition to repay in full the benefits it thus receives.

Can a mother build up the body of her child by administering chocolates and buns at all times, without the least attention to its body-building necessities? If the mother does so she is as bad as the faddist and bad cultivator combined, though she gains the cupboard love of the child, the bad cultivator gains nothing from the rose when so treated.

There is one Golden Rule which should be observed when dealing with manure—The weaker the plant the less manure it must be given—or better still, no manure at all. This is commonsense again; does a mother richly feed an ailing child? Wherever I go I see the ignorant *mali* at his work. A basketful of manure to each plant irrespective of size or condition! A weak ailing plant is perhaps stuffed with an extra basketful to help it on! Is it any wonder then that an ailing plant seldom recovers at his hands. A good quantity of soil removed from around the roots of an ailing plant, and replaced with clean river sand will more often than not effect a cure.

The more vigorous the plant, the more manure it will require, and the more it will be able to consume.

In spite of the unsuitability of the soil in many ways the rose will try gallantly to give of its best, but in spite of its boldest attempts it can do little in soil that is easily water-logged. Means by which surface water can be drained off during the rains should be well considered.

Fertilisers.

THE rose must receive one deep annual mulching of animal manure in October as previously explained. Occasionally lighter

dressings of animal manure applied as a dressing at the top and worked in, without removing any soil, or liberal doses of liquid manure during the flowering period, will do much to increase the quantity and quality of the blooms. Chemical fertilisers which will encourage the promotion of flowers will likewise be found exceedingly effective. What is known as Tonk's manure is one of the best, applied at the rate of 4 oz. to the square yard of soil and worked in to a depth of 3 or 4 inches. This is made up as follows:—

Sulphate of Iron	...	...	...	1 part
Sulphate of Magnesia	...	...	...	2 parts
Sulphate of Lime	...	...	...	8 parts
Nitrate of Potash	...	...	...	10 parts
Superphosphates of Lime	...	...	...	12 parts

Liquid Manure.

LIQUID manure is easily prepared. Place in a barrel or other receptacle fresh droppings of sheep, horse, cow or poultry to about one-fourth of its capacity and fill up to the top with water. Let this soak for a couple of days and stir occasionally. Take out some of this liquid and strain through a coarse sieve. Dilute with sufficient quantity of water to the colour of weak tea and apply to the roots. The manure in the receptacle can be used again two or three times before it requires replacing. A small bag of soot placed at the bottom of the receptacle along with the manure while it is soaking, will greatly improve the quality of the liquid.

For plants in beds small quantities are of little use, at least a gallon to each plant should be given.

Maladies of the Rose.

THE rose when growing vigorously will be found remarkably free from attacks from both insect life and fungus diseases. Before we can proceed to combat these diseases, we must be in a position to readily distinguish between a fungus and an insect attack. This does not always prove of easy solution to the novice. Caterpillars and Beetles will present no difficulty, the former eat around the edge of the leaf, while the latter bites holes through the leaf. But attacks by green fly (aphis) are not so readily detected or diagnosed, and the disease is sometimes erroneously classed as a fungus disease by the novice as a result of the peculiar effect their attacks have on the plant.

The green fly is a tiny little winged insect, light green in colour, with which we poor mortals, who rarely escape to the hills during the trying summer months, are so familiar when drinking our soup at dinner. They neither bite around or through the leaf but they suck out the juice, and thereby the vitality of the plant from all but the hardest tissues, much in the same way as that other little musical insect, sucks our vitality in the form of blood. Thus not only do men and beast, but the vegetable kingdom as well, suffer and live together.

The "life blood" of the plant flows out of the holes punctured by these insects, long after they have had their fill. This condition is readily detected by the shiny appearance on the surface of the leaves and down the tender tissues and is sticky to the touch; it is also presented by the fluid secreted by the aphis. Another sign that the aphis is present is the invasion of the rose bushes by ants which are attracted to the upper stems by the sweet juices secreted by the aphis. A piece of wadding soaked in tar and tied around the stem of the bushes will prevent the ants from climbing on to the bushes.

The white grub also does a lot of damage at the roots of the rose bushes. When you see a bush, which is otherwise healthy suddenly fade and die without any apparent cause, nine times out of ten these grubs will be found gnawing at the roots. They are the larva of various beetle which in turn damage the foliage. They are a cause of serious loss to the Agriculturist and Horticulturist.

There is one more insect which requires mention, last but by no means least—the White-ant, whose depredations are too well known to call for description.

Then we have the Fungus diseases. Mildew which sometimes causes serious damage is the only one worthy of mention. It is easily recognised because of the grayish mould which develops on the leaves and stems. Dull damp weather encourages the formation of this fungus and plants grown in shady situations are prone to its attacks. Due to the destruction of tissue the leaves curl up and drop off and the plants are as a result considerably weakened, and often killed outright. Other fungus diseases present almost the same symptoms in effect.

Remedies.

At the beginning I qualified the description of rose maladies with the remark that strong plants are essential to ward off the attacks of these destructive elements. Proper cultivation at the roots will do more in this direction than a ton of insecticides. Plants in a healthy condition of growth capable of resistance are half the battle. Prevention is better than cure.

To deal with insect life two kinds of deterrents are required—one an irritant which causes death by contact with the skin and the other a poison taken in by the mouth.

Caterpillars and the like which present a soft skin are destroyed by an irritant, whereas hardy insects such as the beetle must be destroyed by poisoning. Fungus diseases are best dealt with by a fungicide in powder form to destroy the germs. A two per cent. solution of Lysol in liquid form has, however, been very successfully used.

Ladybirds are useful insects, they should never be destroyed. They do no harm to the plants whereas they feed on the aphids and sometimes attack small caterpillars.

The best way to eradicate caterpillars is by handpicking, they must be hunted down most assiduously. Offer a small reward to the *mali's* son for every score he catches and you will have no trouble with these pests. They should be collected in a pan containing a little kerosene oil; this will effectively destroy them.

Aphids are best destroyed by an emulsion applied as a fine spray which covers their tiny bodies. The emulsion is prepared as follows :

Kerosene oil	...	...	1 gallon
Country soap	...	...	4 lbs.
Water	...	...	30 gallons

Boil a gallon of water and while still on the fire dissolve the soap in it. Remove from fire and while still hot add the kerosene oil. Churn by means of a force pump into a creamy mass. Gradually add the remaining water while still hot.

Syringing the foliage with clean water in the evening is always beneficial particularly during the dry weather. In addition to many advantages it tends to keep down insect pest, especially if a weak solution of tobacco is used instead of clean water. The tobacco water is prepared by dissolving $1\frac{1}{2}$ lbs. of soft soap in one

gallon of hot water and mixing therein the juice obtained by steeping a pound of country tobacco in a gallon of boiling water and leaving till cold. A pint of this mixture to a gallon of water is the strength to use. The mixture should be well-stirred and as each pint is taken out it should be strained through a muslin before mixing with the water.

The rose beetle or cockchafer is usually nocturnal in its habit and therefore seldom seen at work. Arsenate of Lead sprayed on the bushes at sunset and repeated every two or three days will destroy the beetles. This is prepared as follows :

Arsenate of Soda (98 per cent) ...	1 oz.
Arsenate of Lead (98 per cent) ...	2 $\frac{3}{4}$ oz.
Water	1 pint

When thoroughly dissolved add ten gallons of water. A pound of country *gur* (cane juice) added to the mixture will make it more effective. Apply in the form of a fine spray.

Fungoid diseases are usually treated with a fungicide in powder form to destroy the disease germs, Flower of Sulphur being largely used. Lysol tends more and more to displace all other solutions for combating all parasites and before trying any other remedy the cultivator will be well advised to give this a trial.

The writer has used it with good effect for both insects and fungoid diseases. Anything up to a 5 per cent solution may be used in repeated applications until the trouble is removed. An effective fungicide is Sulphate of Potassium also known as Liver of Sulphur, made as follows :

Sulphide	$\frac{1}{2}$ oz.
Water, hot	1 pint
Whites of two eggs	

Dissolve the sulphide in the water and then add one gallon of water. Beat up the whites of two eggs and add, mixing thoroughly. Apply in the form of a fine spray.

A dust gun will be necessary for remedies applied in powder form and a spraying outfit for liquids.

Grubs at the roots of the bushes can be kept under control by constant cultivation and hand-picking. Carbonate of Sulphur applied at the rate of $1\frac{1}{2}$ ounces to the square yard will rid the soil of these pests.

White-ants—the very name is a nightmare to the Horticulturist. They are perhaps the most nefarious of all insect life and their depredations know no limit. Several concoctions for their destruction are advertised but they are rarely effective. Weak doses of Phenyl applied to the roots every little while does keep them away, but its continuous use is a danger to the plant. Their attacks are usually confined to the weaker plants and those newly-planted. I once visited a garden where nothing could be grown except water-lilies in a pond—strange garden! The invasion of white-ants was so great that one could not stand long in one place without the soles of your shoes being taken off! This may appear an exaggeration but it is none the less true. On the first occasion of my visit to this 'garden,' I laid my hat down on the ground while measuring the position for some fruit trees to be planted. When I returned after fifteen minutes my hat had disappeared! I eventually found it inside a regiment of white-ants! but I grew the fruit trees there which are now in full bearing. The people in the vicinity spoke of this feat as my "*Jadu*." This is how it was done:—

Pits were dug four feet deep and four feet wide. Half the depth of the pit was filled with earth and manure. The remaining two feet was filled with clear river sand, nothing else. This proved the undoing

of the little giants of destruction. The fruit trees were planted in the sand. Of course copious watering was necessary for the first year. Only one plant was lost out of seventy-two and that due to the accidental 'bridging' from *terra firma* across the sand to the tree, by means of a twig which had been brought by the breeze and got lodged there.

Once the roots reached the soil below, the trees got right away and are now about a foot in diameter. The prudent zemindar who owns this oasis has taken the precaution to remove the earth around each tree to a diameter of eight feet and a foot deep and has replaced this with sand.

This plan has always succeeded when planting rose bushes whenever every other method to rid the ground of white-ants had failed. A spread of 18 inches to a depth of 10 or 12 inches being nothing but sand. If the white-ants are still troublesome after the plants have made good growth the sand may be left in position, otherwise replaced with a mulch.

Roses in Pots.

THE cultivation of roses in pots is one of the most pleasurable occupations for the amateur rose-grower. Teas, Chinas, and the less vigorous H. Ts are best suited for this purpose while the little Polyanthas (Pompons) are wonderfully adaptable to this form of work and it is difficult to imagine a more beautiful sight than a pot of these pompons in full bloom.

Pots eight to ten inches in diameter are large enough. It is essential to place plenty of crocks at the bottom to allow for proper drainage. The soil should be made up of two parts loam, one part leaf-mould and one part cow manure. A little bone-meal sprinkled

on the top and worked in will be very beneficial. Weak liquid manure should be made a weekly diet. The plants will require repotting into fresh soil once a year in November. The ball of earth around the roots should be considerably reduced and all hard twisted roots cut short before repotting.

A rather unique method the writer has used in growing roses in pots is as follows :

Seven-inch pots are obtained perforated with half-inch holes all around the sides two or three inches apart with the usual hole at the bottom.

The roses are potted in these in the usual way and these pots plunged up to their rims into ten-inch pots containing a rich mixture of loam and manure. Into this the roots enter most freely through the perforations. Once a year the roses are taken out of the larger pots without disturbing the roots in the smaller pots. All the roots which have grown through the perforations are cut completely off, right back to the perforations and again plunged into the larger pots in fresh compost. The plants make a new set of roots year by year with the greatest advantage to the inflorescence.

Imported Plants.

Orders for rose plants from Europe should be placed early in the year to avoid the possibility of disappointment. Clear instructions should be given to despatch the consignment so as to arrive in India about the middle of December. Plants ordered from Australia should arrive at the end of July or the beginning of August.

The plants from Europe will arrive in a dormant condition and no attempt should be made to force them into growth.

All dead and decaying growths should be removed and the plants carefully potted in a compost of leaf-mould and sand in equal proportion. The compost should be just damp and no more. The potted plants should then be covered over with empty packing cases or tubs or any suitable article, in order to prevent evaporation from plant and soil. If there are a number of plants the better plan would be to dig a trench deep enough to hold the plants in which the pots are placed, and the trench covered over with matting, etc.

After a couple of days a light sprinkling of water may be required but if the soil is still damp no water will be necessary. The longer the eyes remain dormant the better. Should they break into leaf immediately, there is a possibility of the plants dying. Many a novice is misled at the sight of this leaf growth. New roots cannot form so quickly and the leaves are only the result of the activity of the reserve matter in the stems. If this is exhausted before the roots have formed the plants will die.

If after a couple of weeks or so the eyes gradually develop into growth, root action has taken place and a little more water may then be given—very little, just enough to keep the soil “just damp.”

The plants that show strong activity should be taken out of the trench and gradually exposed to sun and air. A little sun in the morning is all they require, more and more being given each day till the plants are nice and strong.

Plants from Australia will also arrive in a dormant condition but activity in the stems will be more pronounced than in the plants from Europe. The same treatment will be necessary for these plants. Growth will be much quicker at this time of the year and the plants will require to be hardened off quicker.

Exhibiting.

THE blooms are generally cut on the morning of the Show, little is gained by so doing unless the season is very hot. The majority of blooms should be cut late the previous evening and the morning cutting may be confined to a rapid examination of a few blooms which were left for reconsideration on the previous day. The show-boxes should be arranged the previous evening and left out of doors protected from the dew.

A few extra blooms should always be taken to the Show and these should also be arranged in spare show-boxes before the journey. All that will be necessary at the show will be the labelling of the blooms and substituting any that require removal. The labels should be written out at home.

A more decorative effect is produced if the roses are cut with long stems. A little straw stuffed into the tin vases which hold the water will help to fix the rose in any desired position. Slitting the end of the stems will enable the roses to take up more water than otherwise. The water should be tepid and not cold.

The definition of a good rose is, according to regulation, "The highest type of bloom is one which has form, size, brightness, substance and good foliage, and which is at the time of judging in the most perfect phase of its possible beauty."

All titivating or dressing of the blooms should be done before they are taken to the Show. All damaged outer petals must be removed. A gentle puff with the mouth at the centre will loosen tightly packed petals, but on no account alter the character of the bloom and remember that a rose showing an open centre (unless a single bloom) gains no point. The lids of the boxes should not be removed until 10 to 15 minutes before judging.

To be a successful exhibitor one must possess a good number of Exhibition varieties. These will as a rule be shown as such in a catalogue.

Some days before the Show the flower buds should be selected when they are the size of peas. One or two on a stem should be retained and the remainder nipped off. This will throw vigour into the buds retained. If more than one is retained the final selection should be made before they begin to open and the one not required removed.

Some of the eyes below the selected flower bud should also be removed, so that all the strength of the stem will be concentrated on the one or two flower buds retained.

Liquid manure should be given to the roots often, but all feeding with stimulants must be withheld ten days before the Show otherwise the blooms may be exaggerated in form and colour.

Choice of Plants.

THE selection of the List of Roses which is to follow has been perhaps the greatest task of all. I began with the comfortable assurance that I was immune from any possible sins of commission. Whatever I included was bound to be worthy of inclusion. All it meant was to run my eye down the colossal list of names and mark off those Roses most worthy. My occupation promised to be both easy and delightful. But by the time I had marked off from the first page of the list before me (and there were forty or fifty pages) I found I had omitted none!

I assert that there is not a single Rose not worthy of cultivation for some purpose or another, each has its own distinct uses. But I had to keep within certain limits and yet by

omitting certain varieties I am threatened with the indignation of every Rose grower whose particular taste differs from my own.

I feel, however, I may claim to have pleased everybody with the list I now set before you, not because I claim that it contains the choicest of all Roses, but because it is comforting to know that any disgruntled reader possesses his own remedy, he may by turning up the pages of a Rose catalogue mark off his beloved favourites which I have happened to reject.

Roses possess many distinctive forms each suitable for its own particular use. Take for instance Roses suitable for vases, how many are really suitable for this purpose? You will be surprised how very few do lend themselves to cutting. Madame E. Harriott though an excellent rose is quite useless for this purpose, as it does not last. William Shean, on the other hand, though an exhibition rose and lasts well, does not stand upright and is much too heavy. The ideal vase Rose should have long stiff straight stems, few thorns, foliage well up the stem, shapely bloom which will last, long reflexed petals, and preferably one bloom to each stem.

Then we have sweet-scented Roses, Roses for Standards, for Pillars, Climbing Roses and Roses for various other purposes. All these features have been considered and have been mentioned as an aid to the reader in the selection of the desired forms.

Hundreds of Roses have been raised in post-war days, never was there such a wonderful list to choose from. Those that were popular in pre-war days are now regarded as old roses, but many are indispensable. In your haste to stock the garden with up-to-date varieties do not fail to consider the charms of some of these which have been included.

There are some people whose only idea when making a selection of Roses for themselves, is to obtain something colossal in size and who have no time for a single or semi-double Rose. My advice to those who cannot see beauty in these delightful gems, is to give up growing Roses and to go in for growing cabbages instead!

In this list charming singles and semi-doubles have found a place. Old Roses have not been forgotten, whereas modern varieties have been liberally included. Some have gained entrance on account of their wonderful scent, perhaps worth growing for that purpose alone. The choicest dwarf Pompons are to be found in every colour. Why is it we do not see more of these growing in beds hugging the stems of their taller brethren?

Plants bearing miniature flowers from the size of a marble with the hundreds of petals tightly packed, to plants bearing the giants in Roses with blooms six to seven inches across are all here. All are worth growing.

The following abbreviated descriptions will be found against the names of roses in this list. These descriptions are explained below:

Bed.—Roses suitable for growing in beds. General Garden Roses.

Exhibition.—Blooms suitable for exhibition. Blooms of fine form, good size and substance.

Buttonhole.—Suitable in bud for buttonholes, does not necessarily mean that the flowers, when developed, are small.

Wall—indicates a climber of vigorous habit suitable for growing over walls of houses and heavy structures.

Rambler.—Not as a rule suitable for heavy work such as covering large masonry pergolas, walls, etc. Best suited to light trellises and light arches, etc., also for rambling over banks.

Pillar.—Not as a rule strong enough for covering high walls, usually moderate climbers or vigorous bush plants. Some Pillar roses tend to become “leggy” in which case dwarf plants of the same colour should be grown around the base to clothe their nakedness.

Standard.—Roses suitable for growing as Standards.

Half Standard.—Roses which make good standards not more than two feet high.

Weeping Standard.—Roses suitable for growing as weeping standards.

Pegging down.—Roses which lend themselves to this form of treatment.

Edging.—Roses suitable for growing as an edging to beds of roses or as a “setting” to standards.

Pot.—Plants suitable for growing in pots.

Fragrant.—Blooms with a perfume.

Large Blooms.—Plants bearing immense flowers.

Vase.—Blooms suitable for cutting for vases.

Hedge.—Plants suitable for growing as hedges.

White and Cream

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|-----------------------------|---|
| 1. Aimée Vibert (Noi) | Wall |
| 2. Albéric Barbier (Wich) | Rambler. Weeping Standard |
| 3. Bianca | Bed |
| 4. Chastity (H. T.) | Pillar |
| 5. Clarice Goodacre (H. T.) | Bed. Exhibition. Vase |
| 6. Edith Cavell (H. T.) | Bed |
| 7. Evangeline (Wich) | Rambler. Weeping Standard.
Very Fragrant |

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| 8. | Félicité-et-Perpétue (Semper) | Wall. |
| 9. | Frau Karl Druschki (H.P.) | Exhibition. Standard. Pegging down. Vase |
| 10. | Katharine Zeimet (Poly. pom.) | Edging. Half Standard. Pot |
| 11. | Lady Greenhall (H.T.) | Bed |
| 12. | Little Meg (Poly. pom.) | Edging. Pot |
| 13. | Madame Alfred Carrière (Noi.) | Wall. Pillar. Very Fragrant |
| 14. | Marcia Stanhope (H.T.) | Bed. Fragrant |
| 15. | Mermaid (H. Brac.) | Wall. Immense single bloom |
| 16. | Miss Willmott (H.T.) | Bed. Exhibition. Large bloom |
| 17. | Molly Sharman-Crawford (T) | Bed. Exhibition. Standard. Vase |
| 18. | Mrs. C. Lamplough (H.T.) | Bed. Exhibition. Vase |
| 19. | „ Foley Hobbs (T) | Bed. Exhibition. Standard |
| 20. | „ George Marriot (H.T.) | Bed. Exhibition. Large bloom |
| 21. | „ Herbert Stevens (T) | Bed. Buttonhole. Standard. Vase |
| 22. | Paul's Lemon Pillar (Noi) | Exhibition. Pillar |
| 23. | Snowflake (Wich) | Rambler |
| 24. | White Ensign (H.T.) | Bed. Standard. Vase |
| 25. | Yvonne Rabier (Poly. pom.) | Edging. Half Standard. Pot |

Blush & Flesh

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|----|----------------------|---------------------------|
| 1. | Admiration (H.T.) | Bed. Exhibition. Standard |
| 2. | Dr. Van Fleet (Wich) | Rambler |
| 3. | G. Nabonnand (T) | Bed. Fragrant |
| 4. | Konigin Carola | Bed. Large bloom |

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|-----|-----------------------------------|---|
| 5. | La Tosca (H.T.) | Bed. Standard |
| 6. | Mme. Antoine Mari (T) | Bed |
| 7. | Nellie Parker (H.T.) | Bed |
| 8. | Ophelia (H.T.) | Bed. Exhibition. Standard. Very
Fragrant. Vase |
| 9. | Pharisæer (H.T.) | Bed. Exhibition. Standard |
| 10. | Viscountess Folkestone
(H. T.) | Bed. Standard. Very fragrant.
Large bloom |
| 11. | Zéphirine Drouhin (Bour) | Wall. Pillar. Pegging down. Very
fragrant. (Thornless) Hedge |

Pink & Salmon Pink

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|-----|--------------------------------------|----------------------------|
| 1. | American Pillar (Wich) | Rambler. Pillar |
| 2. | Caroline Testout (H. T.) | Bed. Exhibition. Standard |
| 3. | Charles E. Shea (H. T.) | Bed. Exhibition. Vase |
| 4. | Cherry Page (H. T.) | Bed. (Semi-double) |
| 5. | Clovelly (H. T.) | Bed. Vase |
| 6. | Climbing Ophelia (H. T.) | Wall. Pillar |
| 7. | Climbing Lady Ashtown
(H. T.) | Wall |
| 8. | Climbing Mme. A. Chatenay
(H. T.) | Pillar. Fragrant |
| 9. | Climbing Caroline Testout
(H. T.) | Wall |
| 10. | Coral Cluster (Poly. pom.) | Edging. Half standard. Pot |
| 11. | Columbia (H. T.) | Bed. Fragrant |
| 12. | Dame Edith Helen (H. T.) | Bed. Fragrant |
| 13. | Dorothy Page-Roberts
(H. T.) | Bed. Fragrant |
| 14. | Dorothy Perkins (Wich) | Rambler. Weeping Standard |

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|-----|---------------------------------|---|
| 15. | Dean Hole (H. T.) | Bed. Exhibition. Fragrant |
| 16. | Dr. Joseph Drew (H. T.) | Bed. Exhibition. Fragrant.
(Courtney Page) |
| 17. | Edith Part (H. T.) | Bed. Large bloom |
| 18. | Ethel Somerest (H. T.) | Bed. Large bloom. Vase |
| 19. | Fraicheur | Rambler |
| 20. | Gustav Grunerwald (H. T.) | Bed. Standard. Fragrant |
| 21. | Lady Waterlow (H. T.) | Wall. Pillar. Pegging down.
Standard (Semi-double) |
| 22. | Lady Mary Elizabeth (H.T.) | Bed |
| 23. | Laurette Messimy (C.) | Bed. Standard |
| 24. | Los Angeles (H. T.) | Bed. Standard. Buttonhole.
Fragrant |
| 25. | Maman Turbat (Poly. pom.) | Edging. Pot |
| 26. | Mabel Turner (H. T.) | Bed. Exhibition |
| 27. | Mme. Abel Chatenay (H. T.) | Bed. Buttonhole. Standard.
Fragrant. Vase |
| 28. | " Butterfly (H. T.) | Bed. Standard. Fragrant. Vase |
| 29. | " Segond-Weber (H. T.) | Bed. Large bloom |
| 30. | " Léon Pain (H. T.) | Bed |
| 31. | Mrs. Edward Mawley. (T.) | Bed. Vase |
| 32. | " George Norwood
(H. T.) | Bed. Exhibition. Very fragrant |
| 33. | Mrs. Henry Bowles (H. T.) | Bed. Exhibition. Standard.
Large bloom |
| 34. | Mrs. Henry Morse (H.T.) | Bed. Standard. Exhibition. Vase |
| 35. | " W. Christie-Miller
(H.T.) | Bed |
| 36. | " W. H. Cutbush
(Poly. pom.) | Edging. Half Standard. Pot |

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|-------------------------------|-----------------------|
| 37. Prince de Bulgarie (H.T.) | Bed |
| 38. Shot Silk (H.T.) | Bed. Buttonhole. Vase |
| 39. Venus (H.T.) | Bed. Standard |

Rose

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|-------------------------------|---------------------------------|
| 1. Ellen Poulsen (Poly. pom.) | Edging. Half Standard. Pot |
| 2. Elsie Beckwith (H.T.) | Bed. Fragrant. Vase |
| 3. Ivy May (H.T.) | Bed. Buttonhole. Vase |
| 4. Lady Alice Stanley (H.T.) | Bed. Exhibition |
| 5. „ Ashtown (H.T.) | Bed. Exhibition |
| 6. Mme. E. Resal (C) | Bed. Standard |
| 7. Mrs. E. G. Hill (H.T.) | Bed |
| 8. „ Bryce Allen (H.T.) | Bed. Exhibition. Very fragrant |
| 9. „ John Laing (H.P.) | Bed. Exhibition. Fragrant. Vase |
| 10. Orleans Rose (Poly. pom.) | Edging. Half Standard. Pot |
| 11. Una Wallace (H.T.) | Bed. Vase |
| 12. William Shean (H.T.) | Bed. Exhibition |

Light Crimson

- | | |
|-----------------------------|---------------------------------------|
| 1. Allen Chandler (H.T.) | Pillar |
| 2. Augustus Hartmann (H.T.) | Bed. Exhibition |
| 3. Crimson Rambler (Wich) | Rambler |
| 4. Crimson Chatenay (H.T.) | Bed. Fragrant |
| 5. Fisher Holmes (H.P.) | Bed |
| 6. General Mc.Arthur (H.T.) | Bed. Standard. Very Fragrant.
Vase |
| 7. G. C. Waud (H.T.) | Bed. Exhibition. Fragrant |
| 8. Hortulanus Budde (H.T.) | Bed. Semi-double |
| 9. Isobel (Pernet) | Bed. Largest single rose |

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|-----|------------------------------|-----------------------------|
| 10. | Kosters Orleans (Poly. pom.) | Edging. Half Standard. Pot |
| 11. | Laurent Carle (H.T.) | Bed. Standard Very Fragrant |
| 12. | Lord Charlemont (H.T.) | Bed |
| 13. | Miss Helyett (Wich) | Rambler |
| 14. | Mrs. E. Powell (H.T.) | Bed |
| 15. | Mrs. H. Winnett (H.T.) | Bed. Very Fragrant. Vase |
| 16. | Prince of Wales (H. T.) | Bed. Fragrant |
| 17. | Richmond (H. T.) | Bed. Very fragrant. Vase |

Dark Crimson

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|-----|-----------------------------------|--|
| 1. | Alfred Colomb (H. P.) | Bed. Very Fragrant |
| 2. | Avoca (H. T.) | Exhibition. Pegging down. Standard. Fragrant |
| 3. | Bardou Job (H. T.) | Pillar. Semi-double |
| 4. | Captain Hayward (H. P.) | Bed. Exhibition. Fragrant |
| 5. | Château de Clos Vougeot (H. T.) | Bed. Standard. Very fragrant |
| 6. | C. K. Douglas (H. T.) | Bed. Standard |
| 7. | Colonel Oswald Fitzgerald (H. T.) | Bed |
| 8. | Covent Garden (H. T.) | Bed |
| 9. | C. V. Haworth (H. T.) | Bed. Exhibition |
| 10. | Eblouissant (Poly. pom.) | Edging. Pot |
| 11. | Edith Cavell (Poly. pom.) | Edging. Pot |
| 12. | Etoile de Hollande (H. T.) | Bed. Standard. Fragrant |
| 13. | Excelsa (Wich) | Rambler. Weeping standard |
| 14. | Fabvier (C.) | Bed. Standard |
| 15. | George Dickson (H. T.) | Bed. Exhibition. Standard. Very fragrant |

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| 16. | Glory of Holland (H. T.) | Bed. Fragrant |
| 17. | Gruss an Teplitz (H. T.) | Bed. Pegging down. Standard.
Fragrant. Hedge |
| 18. | Hadley (H. T.) | Bed. Buttonhole. Fragrant. Vase |
| 19. | Hoosier Beauty (H. T.) | Bed. Buttonhole. Very fragrant.
Vase |
| 20. | Holt Hewitt (H. T.) | Bed. Very Fragrant |
| 21. | Hugh Dickson (H. P.) | Bed. Pillar. Standard. Pegging
down. Fragrant. Large bloom.
Hedge |
| 22. | Jessie (Poly. pom.) | Edging. Pot |
| 23. | J. G. Glassford (H. T.) | Bed. Exhibition |
| 24. | Kirsten Poulsen (Poly.
pom.) | Edging Pot |
| 25. | K. of K. (H. T.) | Bed. Standard. Semi-double |
| 26. | Le Loiret (Poly. pom.) | Edging Pot |
| 27. | Lieut. Chauré (H. T.) | Bed. Exhibition. Very fragrant |
| 28. | Locarno (Poly. pom.) | Edging. Pot |
| 29. | Miss C. E. van Rossem
(H. T.) | Bed. Vase |
| 30. | Paul's Scarlet Climber
(Wich) | Rambler. Pillar |
| 31. | Romeo (Wich) | Rambler |
| 32. | Red Letter Day (H. T.) | Bed. Semi-double |
| 33. | Saltaire (H. T.) | Bed. Very fragrant |
| 34. | Scarlet Glory (H. T.) | Bed |
| 35. | Sir David Davies (H. T.) | Bed |
| 36. | Souvenir de Claudius
Denoyel | Wall. Pillar
. |
| 37. | The General (H. T.) | Bed. Very fragrant |

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| 38. Ulrich Brunner (H. P.) | Bed. Exhibition Very fragrant
Large bloom |
| 39. Vesuvius | Bed. Standard |
| 40. Walter C. Clark (H. T.) | Pillar. Very fragrant |

Yellow

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|--|---------------------------------|
| 1. Aviateur Bleriot (Wich) | Rambler |
| 2. Banksia Rose (Yellow) | Wall |
| 3. Canarienvogel (Poly. pom.) | Edging. Pot |
| 4. Christine (Pernet) | Bed |
| 5. Climbing Melanie Soupert
(H. T.) | Wall. Pillar |
| 6. Duchess of Wellington (H.T.) | Bed. Exhibition |
| 7. Emily Gray (Wich) | Rambler |
| 8. Florence Izzard (H.T.) | Bed. Buttonhole. Standard. Vase |
| 9. Fortune's Yellow (N.) | Wall |
| 10. Golden Dawn (H. T.) | Bed |
| 11. Golden Emblem (Pernet) | Bed. Buttonhole. Standard. Vase |
| 12. Gloire de Dijon (T.) | Wall. Very fragrant |
| 13. Harry Kirk (T.) | Bed |
| 14. Louise Baldwin (H.T.) | Bed |
| 15. Mabel Morse (H. T.) | Bed. Exhibition. Fragrant |
| 16. Maréchal Niel (Noi.) | Wall. Exhibition. Fragrant |
| 17. Mermaid (H. T.) | Pillar. Single |
| 18. Mrs. S. K. Rindge (H. T.) | Bed |
| 19. Mrs. Wemyss Quin (Pernet) | Bed. Standard |
| 20. R. E. West (H.T.) | Bed. Vase |
| 21. Rev. F. Page Roberts (H. T.) | Bed. Exhibition. Standard. Vase |
| 22. Souv. de Claudius Pernet
(Pernet) | Bed. Standard. Vase |

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| 23. Shower of Gold (Wich) | Rambler |
| 24. Tim Page (Pernet) | Bed |
| 25. Wm. Kordes (H.T.) | Bed |
| 26. W. A. Richardson (Noi.) | Wall |
| 27. Ville de Paris (Pernet.) | Bed. Vase |

Yellow Shaded

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|--------------------------------------|---|
| 1. Angele Pernet (Pernet) | Bed. Buttonhole. Fragrant (fruity).
Standard. Vase |
| 2. Climbing Paul Lédé (H.T.) | Wall Pillar |
| 3. Climbing Sunburst (H.T.) | Wall. Pillar |
| 4. Frances Gaunt (H.T.) | Bed. |
| 5. Joseph Hill (H.T.) | Bed. |
| 6. Lady Hillingdon (T) | Bed. Standard. Vase |
| 7. Margaret Dickson Hamill
(H.T.) | Bed. Standard |
| 8. Mme. Ravary (H.T.) | Bed. Standard |
| 9. Melanie Soupert (H.T.) | Bed. Exhibition. Standard. Large
bloom |
| 10. Paul's Lemon Pillar (Noi) | Rambler. Pillar |
| 11. Rêve d'Or (Noi) | Wall |

Coppery Rose

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|---------------------------|--------------------------------------|
| 1. Betty Uprichard (H.T.) | Bed. Standard. Buttonhole. Vase |
| 2. Comtesse du Cayla (C) | Bed. Standard |
| 3. Diadem (H.T.) | Bed. Fragrant |
| 4. Emma Wright (H.T.) | Bed. Standard. Vase. Semi-
double |
| 5. Henrietta (H.T.) | Bed. Semi-double |
| 6. Lady Pirrie (H.T.) | Bed. Standard. Vase |

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| 7. Leontine Gervais (Wich) | Rambler |
| 8. Padre (H.T.) | Bed. Vase |
| 9. Perl d'Or (Poly. pom.) | Edging. Half Standard. Pot |

Copper Shaded

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| 1. Betty (H.T.) | Bed. Standard. Fragrant |
| 2. Chrissie Mackellar (H.T.) | Bed. (Semi-double) |
| 3. Chas. P. Kilham (H.T.) | Bed. Vase |
| 4. Climbing Mme. E. Herriott
(Pernet) | Pillar |
| 5. Countess Clanwilliam
(H.T.) | Bed. Standard. Vase |
| 6. Gorgeous (H.T.) | Bed. Exhibition. Standard |
| 7. Golden Salmon (Poly.
pom.) | Edging. Pot |
| 8. Independence Day (Pernet) | Bed |
| 9. Irish Elegance (H.T.) | Bed. Single |
| 10. „ Fireflame (H.T.) | Bed. Standard Single |
| 11. Lady Florence Stronge
(H.T.) | Bed. Exhibition |
| 12. „ Roberts (T.) | Bed. Exhibition. Standard But-
tonhole. Vase |
| 13. „ Mary Ward (H.T.) | Bed |
| 14. Lamia (H.T.) | Bed. Standard. (Semi-double) |
| 15. Léonie Lamesch (Poly.
pom.) | Edging. Pot. Half Standard |
| 16. Louise Catherine Breslau
(Pernet) | Bed. Standard |
| 17. Mme. E. Herriott (Pernet) | Bed. Buttonhole. Standard |
| 18. Marquise de Querhoent (T.) | Bed |

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| 19. | Mrs. Dunlop Best (H. T.) | Bed. Vase |
| 20. | Norman Lambert (Pernet) | Bed |
| 21. | Old Gold (H. T.) | Bed. Standard. (Semi-double) |
| 22. | Phyllis Bide (Poly. C.) | Rambler. Pillar |
| 23. | Severine (Pernet) | Bed |
| 24. | Tea Rambler (Poly. C.) | Rambler |
| 25. | The Queen Alexandra Rose
(Pernet.) | Bed. Standard. Very fragrant.
(Fruity) |
| 26. | W. F. Dreer (H. T.) | Bed. Standard |

Note.—This selection has been largely based on the recommendations of the National Rose Society.